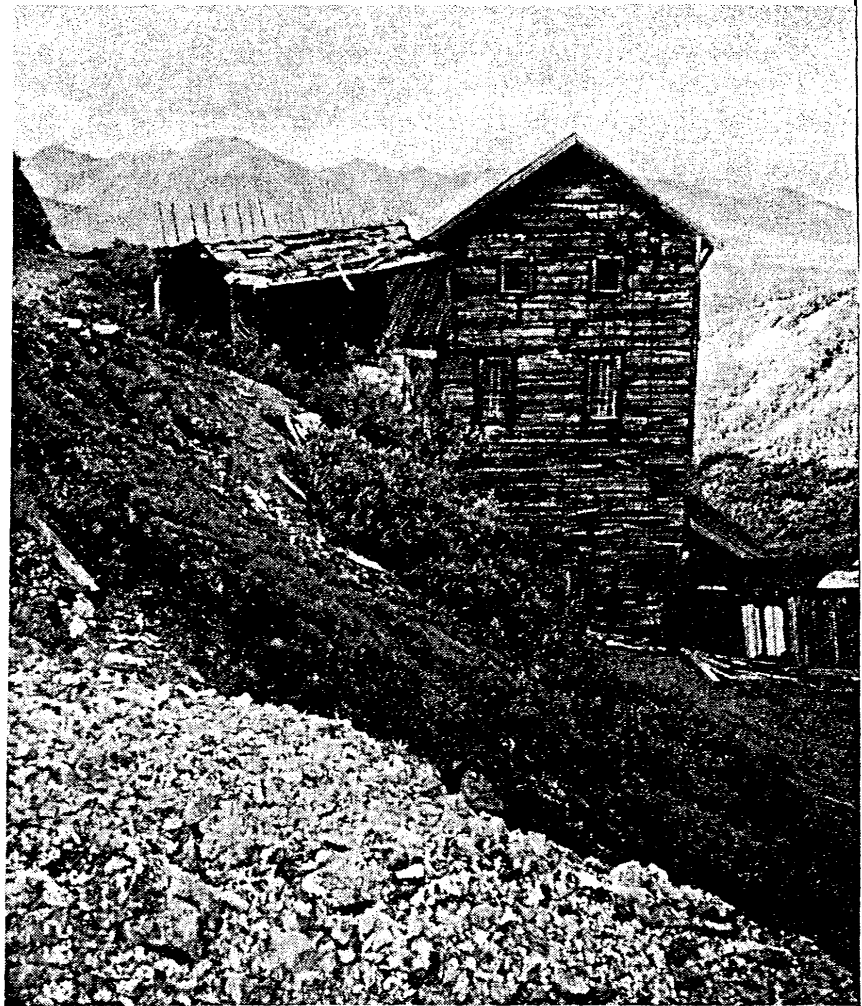


Alaska's Mineral Industry 1992: A Summary

by R.C. Swainbank, T.K. Bundtzen, A.H. Clough, and E.W. Hansen

- PRODUCTION**—Metals, industrial minerals, and coal, with an estimated value of \$561 million, was steady with 1991 value. Low commodity prices reduced profitability for most Alaska mines.
- EMPLOYMENT**—3,492 full-time-equivalent jobs, about the same as 1991.
- EXPLORATION**—Expenditures decline to \$30.4 million.
- DEVELOPMENT**—\$29.6 million, up from 1991 expenditures.
- HEALY CLEAN COAL TECHNOLOGY PROJECT**—Advanced during 1992.
- LAND SELECTION**—State proceeded with applications for final selections and access provisions from federal government according to the provisions of the 1959 Alaska Statehood Act.
- RENTS**—New federal rules require rents on federal mining claims.



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Alaska's Mineral Industry 1992: A Summary

by

R.C. Swainbank,¹ T.K. Bundtzen,² A.H. Clough,³ and E.W. Hansen⁴

This summary is a preliminary review of mineral industry activity in Alaska during 1992. Much of the information it contains is based on partial returns of a Division of Geological & Geophysical Surveys (DGGs) questionnaire circulated in late 1992. The purpose of the summary is to provide timely information, pending publication of the complete annual report later this year.

Table 1 summarizes the value of mineral production and reported expenditures for exploration and development during the last four years.

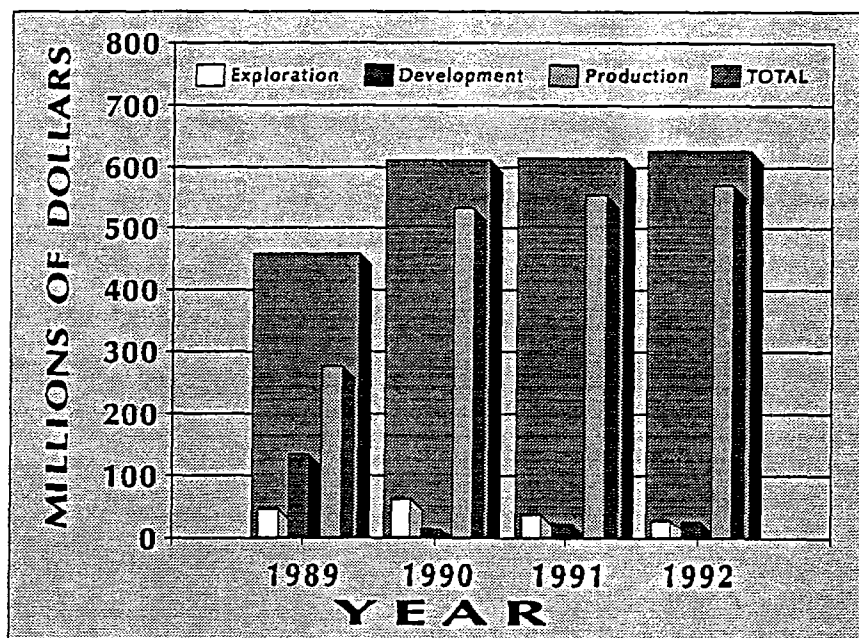
Although production from individual mines varied somewhat from the previous year, the total value of mineral production for 1992 is estimated at \$560.8 million, up 3 percent from 1991. Production of placer gold at Cambior Alaska Inc.'s Valdez Creek Mine was 2,676 kg (86,052 oz) refined gold, the largest production year thus far during the eight-year mine development. In the third quarter of 1992 Cominco Alaska Inc. reported substantial improvement in zinc recovery at the Red Dog Mine.

Development projects at Greens Creek Mine in 1992 resulted in more effective separation of mineral concentrates. (However, at this writing, Kennecott Greens Creek Mining Company has announced that the mine will close in April 1993 because of depressed

metal prices and will reopen only when metal prices improve substantially. During this shutdown, limited underground exploration and development will be ongoing to facilitate reopening of the mine.)

Other noteworthy mineral development projects in 1992 were reported at the Fort Knox gold deposit near Fairbanks, at the Valdez Creek gold placer mine, and at Idemitsu-Alaska Inc.'s Wishbone Hill coal property. Total expenditures on mineral development in 1992 were \$29.6 million, up from \$25.6 million reported in 1991.

Reported exploration expenditures were \$30.4 million, down from \$39.9 million reported in 1991. Hence, the



Alaska Mineral Industry Activity, 1988-1991.

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total preproduction investments reported in 1992 were \$60.0 million, compared with \$65.5 million reported for 1991.

Exploration highlights include significant expansion of reserves or resources at Illinois Creek, at the Ryan Lode, and at Johnson River. New projects were reported in the Rampart, Upper Salcha, and Ladue River areas.

State estimates show that 3,494 people were employed in all aspects of the mineral industry during 1992, compared with about 3,646 employed in 1991. The 4 percent decrease was caused mainly by lower exploration levels (table 2).

Notable federal government actions in 1992 included drastic increases in filing fees and holding fees for federal claims and renewed congressional initiatives to implement large royalties on minerals extracted from these claims. At the state level, following a two-year review of the mineral potential of available federal lands, the state began to make its final selections in late 1992 pursuant to its land entitlement. The state also defined a procedure to nominate rights-of-way under the Revised Statute 2477 (RS2477) provision to allow access across federal lands. The Alaska legislature provided a permanent exemption of in-place natural resources from municipal taxation.

Division of Mining preliminary estimates for 1992 show that 2,501 new state claims and 679 new federal claims were recorded compared with 3,391 and 1,299, respectively, in 1991. Preliminary estimate of the total active claims for 1992 is 50,049, compared with 57,666 in 1991; of these 29,116 are state, and 20,933 are federal.

Table 1. Total value of mineral industry in Alaska, 1989-92

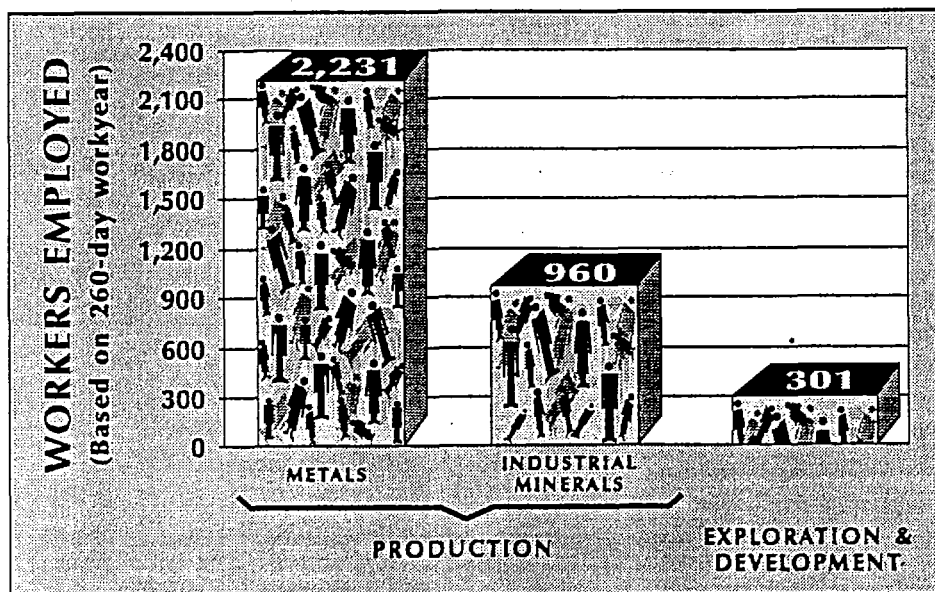
	1989	1990	1991	1992
Exploration	\$ 47,762,596	\$ 63,255,594	\$ 39,908,539	\$ 30,400,000
Development	134,272,350	14,326,500	25,574,350	29,590,300
Production	276,983,741	533,024,500	546,468,907	560,826,400
TOTAL	\$459,018,687	\$610,606,594	\$611,951,796	\$620,816,700

Table 2. Alaskan mine employment, 1989-92^a

	1989	1990	1991	1992
Gold/silver/mining				
Placer	1,316	1,151	1,240	1,251
Lode	161	265	235	240
Base metals	407	425	415	415
Recreational	325	315	320	325
Sand & gravel	625	645	685	640
Building stone	148	160	165	145
Coal	120	115	115	115
Peat	--	--	45	40
Tin, jade, soap-stone, ceramics, platinum	40	40	25	20
Mineral development	785	95	133	164
Mineral exploration	350	374	268	137
TOTAL	4,277	3,585	3,646	3,492

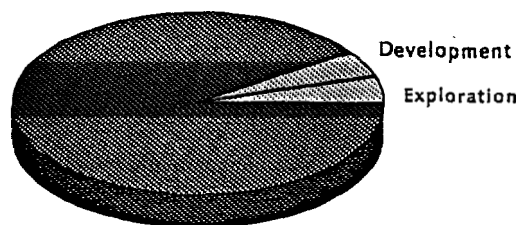
-- = Information not available.

^aCalculated on a 260-day work year.



Mineral industry jobs, by category, 1991.

Production



Production of six metals—zinc, gold, silver, lead, tin, and platinum—accounted for 81 percent of total Alaskan mineral production during 1992, an increase of 4 percent from the 1991 level (table 3). However, low metal commodity prices continued to reduce the profitability of most Alaska mines. The average 1992 price for zinc increased 8 percent from 1991 levels; however, the prices of silver, lead and gold dropped 6, 4, and 7 percent, respectively. The value of zinc (\$302 million) accounted for 54 percent of Alaska mineral production.

In northwestern Alaska, Cominco Alaska, operator of the NANA Corporation-owned Red Dog deposit, shipped 429,901 tonnes (473,000 tons) of zinc, lead, and ISF composite metal concentrate in 1992. This amount is close to the concentrate tonnage shipped in 1991. As in previous years, the concentrates were trucked from mine site to the Kivalina Port, where they were transported during the August to October shipping season to the Cominco smelter at Trail, British Columbia and overseas locations. By implementing technology that selectively processes individual ore types separately, Cominco improved the quality of zinc concentrates at Red Dog, North America's largest producer of zinc. The company reported that overall mill head grades during 1992 were 19.9 percent zinc, 6.0 percent lead, and 99 g/tonne (2.9 oz/ton) silver.

Kennecott Greens Creek Mining Company produced 103,241 tonnes (113,827 tons) sulfide concentrates that contained 36,733 tonnes (40,500 tons) zinc, 14,966 tonnes (16,500 tons) lead, 217,700 kg (7,000,000 oz) silver, and 1,008 kg (32,400 oz) gold. Despite another high yield production year, Kennecott reported another loss for the 1992 calendar year.

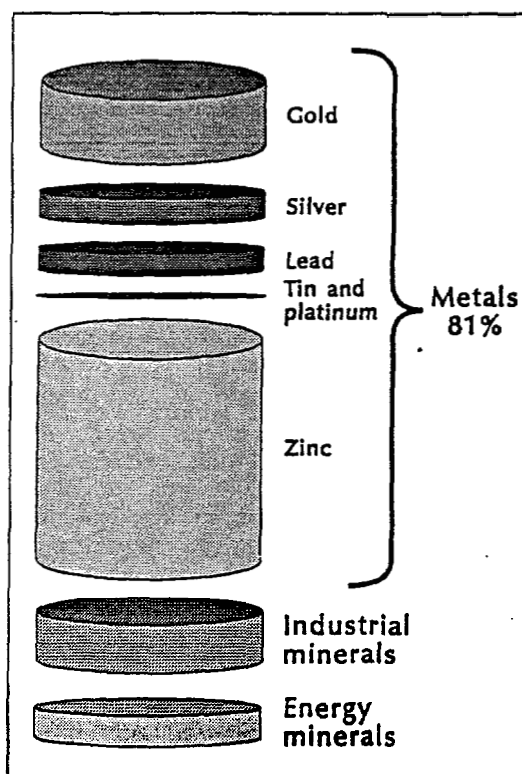
Despite difficult economic conditions at both mines, the Greens Creek and Red Dog operations produced about half of the U.S. domestic mine production of zinc, 12 percent of the lead, and 17 percent of the silver for the 1992 calendar year.

Zinc was the most valuable commodity produced in Alaska, followed by gold. Gold production in 1992 is estimated at 8,163 kg (262,500 oz) compared with 7,585 kg (243,800 oz) in 1991, a weight increase of 7 percent. Lower gold prices in 1992 resulted in nearly the same estimated value (\$88 million) for the two

reporting years. Production came from 197 placer and two lode mines, compared with 202 placer and two lode mines that reported production in 1991.

Cambior Alaska's Valdez Creek mine east of Cantwell produced an estimated 2,676 kg (86,052 oz) of refined gold making it Alaska's largest gold mine for seven of the last eight years. Rounding out the top ten producers (not necessarily in order) were: Greens Creek Mine, southeast Alaska; Polar Mining, Fairbanks; the Dredges of Alaska Gold Company, Nome; Alaska Placer Development, Livengood; Taiga Mining, Hogatza; NYAC Mining, Aniak; Cooks Mining, Fairbanks; Sphinx America, Ruby; and Paul and Company, Circle.

A late spring and early winter in Alaska's interior caused many seasonal placer mining firms to lose up to 25 percent of seasonal annual production. Nevertheless, reported unit-cost performance improved from



Estimated Alaskan mineral production in 1992 totaled \$560.8 million.

Table 3. *Estimated mineral production in Alaska, 1990-92*

Metals	Quantity			Estimated values ^a		
	1990	1991	1992	1990	1991	1992
Gold (ounces)	231,700	243,900	262,500	\$ 89,204,000	\$ 88,291,800	\$ 88,463,000
(kilograms)	7,206	7,585	8,163			
Silver (ounces)	10,135,000	9,076,854	9,115,755	50,675,000	39,114,490	34,913,341
(kilograms)	315,199	281,382	283,500			
Platinum (ounces)	--	15	W	--	5,325	W
(grams)	--	465	W	--	--	W
Lead (tons)	44,220	69,591	68,664	30,954,000	33,403,680	31,585,440
(tonnes)	40,106	63,119	62,278			
Zinc (tons)	181,200	278,221	274,507	253,680,000	278,221,000	301,957,700
(tonnes)	164,350	252,346	248,978			
Tin (pounds)	57,000	6,800	1,500	200,000	22,100	5,910
(kilograms)	25,855	3,084	680			
Subtotal				\$424,713,000	\$439,058,395	\$456,925,391
Industrial minerals						
Jade and soapstone (tons)	W	16.0	1.5	\$ W	\$ 12,000	\$ 30,000
(tonnes)	W	14.5	1.4			
Sand and gravel (million tons)	15.0	14.2	14.6	40,821,500	45,448,512	42,200,000
(million tonnes)	13.6	12.8	13.2			
Building stone (million tons)	3.2	3.0	2.9	22,100,000	22,500,000	22,971,000
(million tonnes)	2.9	2.7	2.6			
Subtotal				\$ 62,921,500	\$ 67,960,512	\$ 65,201,000
Energy minerals						
Coal (tons)	1,576,000	1,540,000	1,531,000	\$ 44,990,000	\$ 39,000,000	\$ 38,300,000
(tonnes)	1,429,000	1,396,780	1,388,620			
Peat (cubic yards)	65,000	75,000	70,000	400,000	450,000	400,000
(cubic meters)	49,699	57,345	53,552			
Subtotal				\$ 45,024,500	\$ 39,450,000	\$ 38,700,000
TOTAL				\$533,024,500	\$546,468,907	\$560,826,391

*Production data from DGGs questionnaires, USBM file data, phone interviews with mine operators, Alaska Department of Transportation and Public Facilities, and other sources.

^aValues calculated from 1992 average prices of gold (\$337/oz), zinc (\$0.55/lb), lead (\$0.23/lb), silver, (\$3.83/oz), and tin (\$3.94/lb); all other values provided by mine operators.

-- = Not reported.

W = Withheld.

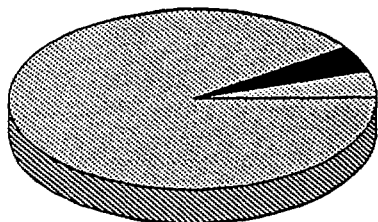
10 to 25 percent from 1991. The 1992 unit-cost improvement suggests that placer miners may be increasing their overall productivity.

The Alaska sand and gravel industry quarried an estimated 13.2 million tonnes (14.6 million tons), worth \$42.2 million for Native, state, and federal road construction projects in all regions of Alaska.

Coal production remained about the same as in 1991—an estimated 1,388,600 tonnes (1,531,000 tons) worth \$38.3 million. Most of the production came from the Usibelli Coal mine at Healy where roughly half the coal fuels six interior power plants, and the other half is

exported to South Korea. Arctic Slope Consulting Group mined about 680 tonnes (750 tons) of coal for testing in village stoves and for metallurgical programs. Price reductions in the international coal markets resulted in more difficult contract negotiations between KEPSCO, the South Korean export coal buyer, the Usibelli Coal Mine Inc., the Alaska Railroad, and Sun Eel Shipping Company.

Production



Development

Exploration

Mineral development expenditures increased 16 percent from \$25.5 million in 1991 to \$29.6 million in 1992 (table 4). Most of the increase can be attributed to mine-site work by Fairbanks Gold Mining Inc. at the Fort Knox deposit near Fairbanks and geotechnical improvements at Greens Creek mine near Juneau.

Fairbanks Gold Mining Inc., an operating subsidiary of AMAX Gold Inc., continued to develop the Fort Knox gold deposit, which is situated almost entirely on lands owned by the State of Alaska. The company completed 20,420 m (67,000 ft) of reverse circulation drilling, conducted geotechnical and hydrologic studies, and completed an on-site condemnation program that identified nonmineralized areas for mill-site design. A comprehensive environmental assessment prepared by CH₂M Hill for Fairbanks Gold Mining was publicly reviewed throughout the fall of 1992. The Fort Knox mine is expected to cost \$220 million to develop, produce about 9,330 kg (300,000 oz) of gold

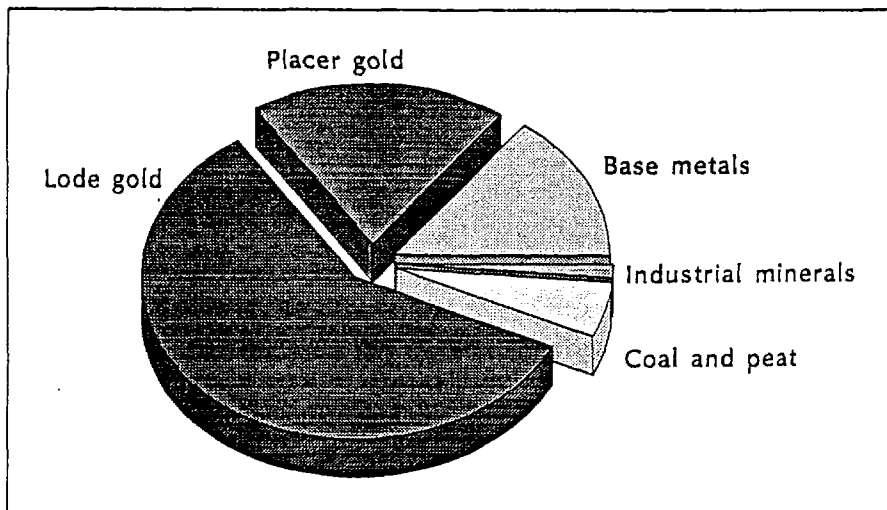
annually—which will roughly double current Alaskan gold production—and employ 250 workers for 16 years. Fairbanks Gold Mining has a projected 1995 startup date.

Kennecott-Greens Creek Mining Company enhanced and modified its water quality containment facility, completed a regrind-flotation expansion project, installed a state-of-the-art waste water treatment facility, and built two tower mills and three additional column-flotation cells. Kennecott carried out this extensive development improvement program despite substantial financial losses.

Idemitsu Alaska Inc. continued development of the Wishbone Hill coal project near Palmer, despite continued uncertainty of the Alaska Mental Health injunction and declining international coal prices. The 1992 work included drilling, engineering studies, ongoing environmental monitoring, and reserve evaluation. To date, Idemitsu has spent \$10 million to define the coal reserve and complete permitting and engineering studies

Table 4. Reported mineral development expenditures and employment in Alaska, 1992.

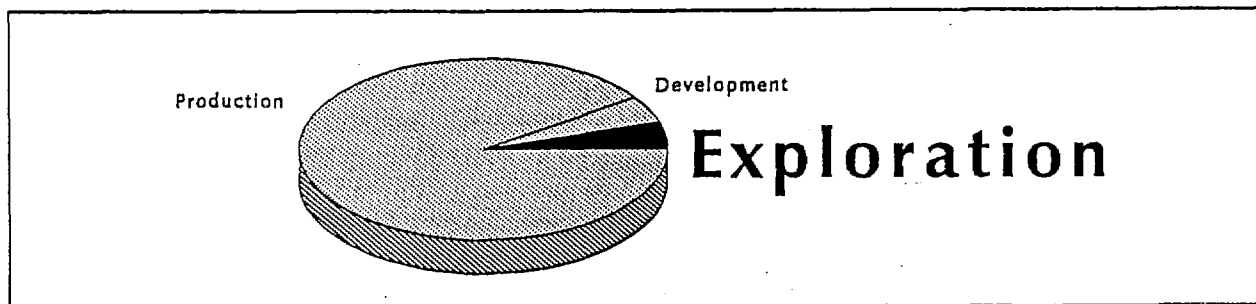
	Northern	Western	Eastern interior	South-central	Alaska Peninsula	South-western	South-eastern	TOTAL
Exploration expenditures								
Base metals	--	--	--	\$ 75,000	--	\$ 5,000	\$ 4,300,000	\$ 4,380,000
Precious metals								
Placer	\$ 63,000	\$2,230,000	\$ 1,634,300	1,464,000	--	30,000	300,000	5,721,300
Lode	--	--	11,000,000	--	--	--	6,430,000	17,430,000
Coal and peat	400,000	--	--	1,255,000	--	--	--	1,655,000
Industrial minerals	--	--	--	70,000	--	--	334,000	404,000
TOTAL	\$463,000	\$2,230,000	\$12,634,300	\$2,864,000	--	\$35,000	\$11,364,000	\$29,590,300
Exploration employment								
Exploration employment								
Workdays	1,780	2,341	12,748	5,904	--	480	19,241	42,494
Workyears ^a	7	9	49	23	--	2	74	164
Number of companies reporting ^b	5	4	12	11	--	3	6	41
-- = No expenditures reported.								
^a Based on a 260-day workyear.								
^b Some companies were active in several areas.								



Estimated Alaskan development expenditures for 1992 totaled \$29.6 million.

for production. Because steam-coal prices have declined, projected costs for the proposed Wishbone Hill mine have been reduced through mine redesign. Idemitsu is evaluating transportation and options of the

project to further reduce cost. In production, the mine would export 680,250 tonnes (750,000 tons) to Japan and provide 150 to 200 jobs annually.



Estimated exploration expenditures for 1992 are \$30.4 million down substantially from the \$39.9 million reported in 1991. As was noted earlier in this report, there was an increase in development expenditure as some large projects changed from exploration to development. The exploration estimates are based on responses from 80 mining companies and consultants, the same number of companies that reported back to DGGS in 1991. Table 5 shows the regional distribution of these exploration expenditures.

Although Battle Mountain Exploration Co. had no activity in Alaska in 1992, all of the other companies active in 1991 had significant projects in 1992. Companies which have not been active in Alaska recently, but had large programs in 1992, include Newmont Exploration Ltd. and Noranda Exploration Inc.

Northern Alaska

Reported exploration expenditures in northern Alaska were up 24 percent in 1992 over those in 1991. As in past years, Arctic Slope Consulting Group had a large drilling program to increase reserves at the Dead-

fall Syncline and extracted 680 tonnes (750 tons) of the high rank coal for village testing and consumption. Earth scientists from the U.S. Bureau of Mines, the U.S. Geological Survey, and the State Division of Geological & Geophysical Surveys continued a multi-year assessment of the north flank of the Brooks Range along the extension of the rock package which hosts the Red Dog Mine. Silverado Mines Ltd. started a drilling project on its Nolan Creek bench property near Wiseman and confirmed the expected grade.

Western Alaska

Expenditures in western Alaska were down 20 percent from 1991. The Bering Straits Native Corporation (BSNC) had programs in joint venture with Newmont Exploration Ltd. around the Rock Creek prospect and with Kennecott Exploration north of Nome. BSNC also reported work at Mt. Distin and other areas of the Seward Peninsula. North Pacific Mining Co. (NPMC), a subsidiary of the Cook Inlet Regional Corporation (CIRI), was also active on the Seward Peninsula. CIRI is one of the 12 regional Native corporations formed by

the Alaska Native Claims Settlement Act (ANCSA). The 12 Native corporations hold mineral rights to almost 44 million acres.

NPMC had a large program at the Illinois Creek gold-silver deposit, with 1,530 m (5,020 ft) of trenching and 1,529 m (5,016 ft) of diamond drilling completed in 1992. Near-surface geologic resources at Illinois Creek are reported to be 3.7 million tonnes (4.1 million tons) at 2.4 g/tonne (0.071 oz/ton) gold and 50 g/tonne (1.47 oz/ton) silver.

NANA Corporation had a modest geochemical and geophysical exploration program on the Seward Peninsula in 1992, and plans further work next year.

Eastern Interior

Reported expenditures were up 53 percent from 1991 in the eastern interior of Alaska. Several exploration projects in the Fairbanks, Circle, Livengood, and Richardson mining districts concentrated on the search for bulk mineable gold deposits. At the Ryan Lode on Ester Dome west of Fairbanks, La Teko Resources Ltd. continued a major drilling project, and at the end of 1992 announced a proven and probable resource base of 32,375 kg (1,041,000 oz) of gold, with a geologic resource of 62,200 kg (2 million oz) in extensions of the identified shear zones in a quartz porphyry pluton and surrounding schist. American Copper and Nickel Co. continued an aggressive exploration program on the remaining 36 sq km (14 sq mi) of Ester Dome and at the

nearby Eagle Creek prospect, where gold is also spatially related to intrusive rocks, similar to deposits on Ester Dome. Freegold Recovery Ltd. continued its exploration of a series of prospects within a large landholding at Cleary Summit in the eastern part of the district, and reached an agreement-in-principle with AMAX Gold Inc. early in 1993 for further exploration. AMAX also continued exploration at the Liberty Bell Mine in the Bonnifield district and west of Pedro Dome in the Fairbanks district.

Tri-Valley Corporation, in joint venture with the Russian TsNIGRI group, continued evaluation of its 179 sq km (70 sq mi) land base in the Richardson District, about 113 km (70 mi) east of Fairbanks.

In the Circle mining district, about 160 km (100 mi) north of Fairbanks, several groups are prospecting high-grade gold veins and an igneous-hosted gold prospect in the Portage Creek drainage. At the end of 1992, Verdstone Gold Corp. optioned claims near Crooked Creek where three diamonds were recovered from placer gold mines in the mid-1980s.

Montague Gold NL, in a joint venture with ASA Inc., an Alaskan company with Australian and Scottish involvement, has been exploring several blocks of land owned by Doyon Inc., a Fairbanks-based Native corporation. Late in 1992, the joint venture acquired some state land at Sawtooth Mountain west of Livengood, where vein samples with 51 g/tonne (1.49 oz/ton) gold occur, and where a veined pyrite-bearing monzonite crops

Table 5. Reported exploration expenditures and employment in Alaska by commodity and region, 1992

	<u>Northern</u>	<u>Western</u>	<u>Eastern interior</u>	<u>South-western</u>	<u>South central</u>	<u>Alaska Peninsula</u>	<u>South-eastern</u>	<u>TOTAL</u>
Exploration expenditures								
Base metals	\$ 80,000	\$ 125,000	--	\$2,600,000	\$ 18,000	--	\$ 893,000	\$ 3,716,000
Precious metals								
Placer	105,000	128,000	\$ 78,000	34,500	363,500	--	25,000	734,000
Lode	--	1,610,000	8,208,350	175,000	978,000	\$ 8,650	13,945,000	24,925,000
Coal and peat	1,000,000	--	--	--	--	--	--	1,000,000
Industrial minerals	--	25,000	--	--	--	--	--	25,000
Other	--	--	--	--	--	--	--	--
TOTAL	\$1,185,000	\$1,888,000	\$8,286,350	\$2,809,500	\$1,359,500	\$8,650	\$14,863,000	\$30,400,000
Exploration employment								
Employment								
Workdays	2,120	3,393	12,836	5,206	2,180	270	9472	35,477
Workyears	8	18	50	20	8	1	36	137
Number of companies reporting	8	8	23	11	18	2	10	80
-- = No expenditures reported.								

out with gold values up to 13.0 g/tonne (0.38 oz/ton). Placer Dome US Inc. has an adjacent land holding. ASA Inc. was also active in the Kuskokwim River area near McGrath. The company found gold in stream sediments in the same belt as the 31,300 kg (1 million oz) Vinasale Mountain gold deposit, which is hosted in quartz monzonite and the 10,885 kg (350,000 oz) Nixon Fork gold skarn deposit.

Recent activity at the Casino porphyry copper-gold deposit in the Yukon Territory created new interest in several similar targets in Alaska. Noranda Exploration Inc., operating on behalf of Hemlo Gold Mines Inc., commissioned a 460-line-km (300-line-mi) airborne magnetic-electromagnetic-radiometric and VLF-EM geophysical survey on the Taurus property in 1992. The survey identified several "blind" targets beneath the extensive overburden, one of which was being drilled (February 1993), and added a new south zone to the east and west Taurus zones which were the focus of exploration during the early 1970s.

Noranda/Hemlo is also a partner in a joint venture with Watts, Griffis and McQuat Inc. (WGM), Conroy Petroleum and Natural Resources Plc. of Ireland, and the American subsidiary of Sumitomo Metal Mining of Japan. This joint venture, announced late 1992, is to explore a large area around WGM's Stone Boy Creek Project about 160 km (100 mi) east of Fairbanks. Following 4,000 line km (2,500 line mi) of airborne magnetic/EM survey flown in 1991 and 1992, several igneous-hosted gold and sedimentary-exhalative targets have been identified for further evaluation, mainly on state-owned lands.

Southwestern Alaska

There were ten small placer exploration projects and two large hard-rock gold exploration programs throughout southwestern Alaska in 1992. Placer Dome U.S. Inc. continued exploration in the Flat area with geological investigations and trenching. At its Pebble Copper deposit near Lake Iliamna, Cominco Alaska Exploration Inc. drilled 2,000 m (6,606 ft) to further evaluate this large copper-gold porphyry system. Reported reserves are 450 million tonnes (500 million tons) grading 0.35 percent copper and 0.012 oz/ton (0.41 g/tonne) gold, with a higher-grade 50-million-ton core grading 0.4 percent copper with 0.015 oz/ton (0.51 g/tonne) gold. Molybdenum occurs with grades in the 0.03 to 0.04 percent range.

Southcentral Alaska

Ten small placer exploration programs were reported throughout southcentral Alaska in 1992. Rowallen Mine Partnership collected a bulk sample upstream of the Valdez Creek placer mine. In the same

area Canalaska Resources USA Ltd. continued mapping and sampling at its Rainbow Hill hard-rock prospect.

Modest programs were reported in the Willow district at the Gold Cord Mine, in the Upper Chulitna district at the Golden Zone Mine, and in the Yentna district at the Blue Ribbon Mine. The largest exploration program in this area was at the Johnson River prospect where a 460-line-km (300-line-mi) geophysical survey and a 2,652 m (8,700 ft) drill program was designed to explore extensions of the existing reserve of 126,980 tonnes (140,000 tons) of zinc and 16,800 kg (540,000 oz) of gold.

North Pacific Mining Co. had a small exploration project on the Toklat polymetallic prospect in the Talkeetna Mountains. The company also collected a bulk sample from the Red Mountain chromite deposit near Seldovia for metallurgical testing.

The Australian exploration firm Paraclete Resources explored gold-magnetite-ilmenite strandline deposits near Cape Yakataga. The objective is to delineate a resource of placer gold with byproduct industrial minerals such as ilmenite and magnetite.

Alaska Peninsula

Except for claim assessment, no exploration activity was reported on the Alaska Peninsula in 1992.

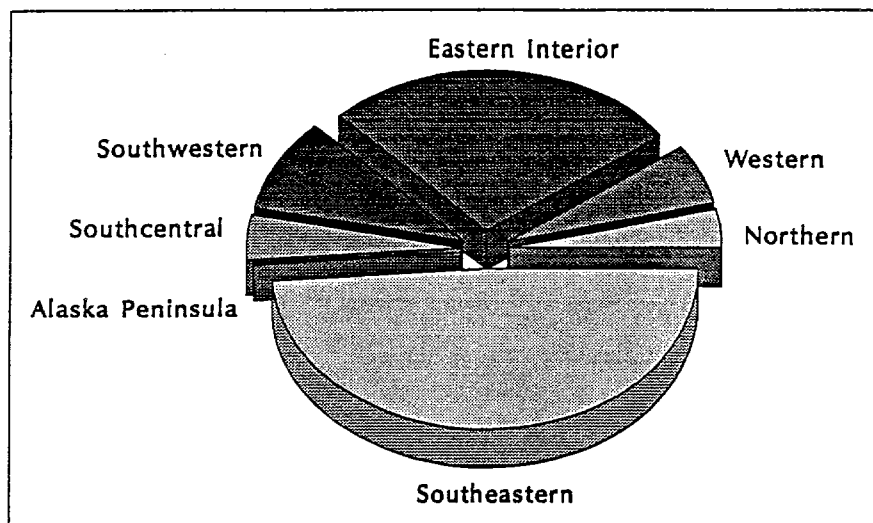
Southeastern Alaska

In southeastern Alaska, Curator International conducted target evaluation at its Jualin prospect, about 80 m (50 mi) north of Juneau, adjacent to Echo Bay's Kensington Mine.

Work continued at Kensington, a joint venture of Echo Bay and Coeur d'Alene Mines, with Echo Bay acting as operator. The joint venture has spent over \$80 million on the project through 1992. Reserves for the Kensington through 1991 are 10.4 million tonnes (11.5 million tons) at 4.9 g/tonne (0.143 oz) gold. The Horrible Vein mineralized zone which is intersected by Kensington main adit contains an additional 3.56 million tonnes (3.9 million tons) of 3.8 g/tonne (0.11 oz/ton) gold.

The final environmental impact statement (EIS) for the project was released in the spring of 1992. The document estimates a \$205 million capital cost with a production cash-cost of \$213/oz gold. The mine would be a rotational camp operation staged from Juneau. Since the mine is in the Greater Juneau Borough the mine operation falls under the City and Borough Mining Ordinance. In October 1992, the City and Borough of Juneau (CBJ) Planning Commission approved the conditional use permit (equivalent to a final EIS) for the project. The joint venture continues to move forward with permitting details of the project and will undertake

Distribution of exploration expenditures by areas of the state. Exploration expenditures for 1992 totaled \$30.4 million.



additional underground exploration in 1993 in an effort to expand the ore reserve.

Echo Bay continues its six-year effort to reopen the Alaska-Juneau (A-J) mine, one of Alaska's premier gold producers. Between 1886 and mine closure in 1944, the mine produced 105,740 kg (3.4 million oz) of gold, 68,420 kg (2.2 million oz) of silver, and 19.95 million kg (44 million lbs) of lead. The mine closed because of wartime shortages in labor and material and not due to ore depletion.

Reserves in all categories for the A-J mine approach 90.7 million tonnes (100 million tons) grading about 1.75 g/tonne (0.05 oz/ton) gold. These reserves exceed

the production threshold of Echo Bay, therefore only limited underground work was conducted in 1992.

During 1992, the final EIS was released for the A-J mine project. In addition, Echo Bay purchased the 15 percent interest in the project which was held by WGM Inc. Thus, Echo Bay now has complete interest in both the A-J and Treadwell gold deposits, although CBJ retains a royalty interest. As with the Kensington mine, the A-J mine must obtain a conditional-use permit under the Juneau Mining Ordinance. The CBJ Planning Commission has recently begun deliberations on the A-J mine and the process should be completed by April 1993.

Drilling

Total drilling in Alaska in 1992 was 135,468 m (444,449 ft), compared with 157,909 m (514,796 ft) reported in 1991. Total reported hard-rock diamond-drilling and reverse-circulation drilling, at 109,677 m (359,834 ft), was up substantially from the 1991 level of 96,516 m (316,655 ft).

Projects reporting major drilling programs include the Rock Creek area north of Nome; Illinois Creek in the Kaltag area; the Pebble Copper and Johnson River programs near Cook Inlet; the Ryan Lode, Ester Dome,

Pedro Dome, and Fort Knox programs in the Fairbanks area; and the Kensington and Greens Creek Mines in Southeast Alaska.

Although total drilling was down from 1991, most of the difference was in thaw-field drilling at Nome by Alaska Gold Co. Because the company is converting from dredging to open-pit operations, thaw-field drilling is no longer necessary.

Government Action

For several years the state has been compiling a register of the trails that may qualify as access corridors under the Revised Statute 2477 (RS2477). During 1992, the state defined a procedure whereby an individual can nominate to the state a trail for consideration as an RS2477 route.

Municipal taxation of in-place mineral resources within municipality borders in Alaska has been possible since statehood. In May 1992, the Alaska Legislature passed SB330, which provides a permanent exemption from municipal taxation of in-place mineral resources.

In 1992 there was no resolution to the problem of recreating the Mental Health Land Trust, but an escrow mechanism was designed so that no project was unduly delayed by the lawsuit between the state and the Mental Health Trust plaintiffs.

After two seasons of field-checking the mineral resources of available federal land, in late 1992 the state submitted land selections of the remaining statehood land entitlement of about 5.7 million hectares (20 million acres). When finally transferred, the state will own about 42.1 million hectares (104 million acres), administered by the Department of Natural Resources.

Because the State of Alaska intends to complete its land selection by January 1994, those individuals or companies holding federal claims wanting to convert to state ownership should do so as soon as possible. ("How to Convert Federal Mining Claims to State Claims," page 11 of this report.)

NEW RENTAL FEE ON FEDERAL MINING CLAIMS

On October 5, 1992, the Department of the Interior Appropriation Act for Fiscal Year 1993 was signed into law. This new law pertains to federal mining claims only, and does not affect state mining claims in any way. Following are the highlights of the act:

New Mining Claims

- (a) Owners of new mining claims located on or after October 6, 1992, will be charged a new rental fee of \$100 in addition to the existing service charge of \$10. This payment must be made

when filing the mining claim notice with Bureau of Land Management (BLM) within 90 days of staking the new claim. The rental payment is for the assessment year ending September 1, 1993.

- (b) A rental payment of \$100 for the 1994 assessment year (beginning September 1, 1993) must be paid to BLM no later than August 31, 1993. Assessment work is not required to be performed for the 1993 and 1994 assessment years.

Claimants with more than ten claims

Owners of more than ten federal mining claims located on or before October 5, 1992, must pay BLM a rental of \$200 per claim no later than August 31, 1993. These are the rental payments for the 1993 and 1994 assessment years. Assessment work is not required to be performed for the 1993 and 1994 assessment years.

Claimants with ten claims or fewer

The "Small Miner Exemption" of the Act provides two choices for claim owners of ten claims or less.

CHOICE 1: The owner of mining claims located on or before October 5, 1992, can pay BLM a rental of \$200 per claim no later than August 31, 1993. These are the rental payments for the 1993 and 1994 assessment years. If the payment is made, assessment work is not required to be performed for the 1993 and 1994 assessment years.

CHOICE 2: The owner of mining claims located on or before October 5, 1992 is exempt from paying the \$200 rental fee for any of the following reasons:

- (a) The claimant is mining under a valid notice or plan of operations and producing not less than \$1,500 and not more than \$800,000 in gross revenues per year.
- (b) The claimant is exploring the claims under a valid notice or plan of operation.
- (c) The claimant must have less than ten acres of unreclaimed surface disturbance from such mining activity or exploration work.
- (d) In addition, all claimants exempted from paying

the \$200 rental fee must file two newly-required certifications by August 31, 1993. (1) A certificate showing that the claimant qualifies for the exemption. (2) A certificate stating that performance of the 1993 assessment work has been done and that the 1994 assessment work will be performed between September 1, 1993, and September 1, 1994.

Please note: At the time of this writing, BLM has not yet issued its final ruling. Interested miners are urged to contact BLM for further details regarding the Interior Appropriations Act.

HOW TO CONVERT FEDERAL MINING CLAIMS TO STATE CLAIMS

With the Interior Appropriations Act recently signed into law, several owners of federal mining claims have inquired about the possibility and procedure for converting a federal mining claim to a state mining claim. In some cases it is possible to do this, but only if a number of land status conditions are met.

CHECK THE LAND STATUS

The following checklist is for owners of unsurveyed federal mining claims who are considering converting their claims to state claims:

- (1) Are your federal claims surrounded by land already conveyed to the state? If not, keep your federal claims.
- (2) Is mining permitted on the state land surrounding your claims? If not, keep your federal claims.
- (3) Are there state or federal claims located in conflict with your federal claims? If yes, you should resolve those conflicts before you proceed.

HOW TO CONVERT UNSURVEYED FEDERAL CLAIMS

If your answers for questions (1) and (2) are yes, and your answer to question (3) is no, then this is what you have to do:

- (a) Record a Notice of Abandonment with the appropriate District Recorder and deliver a copy to the Bureau of Land Management (BLM).

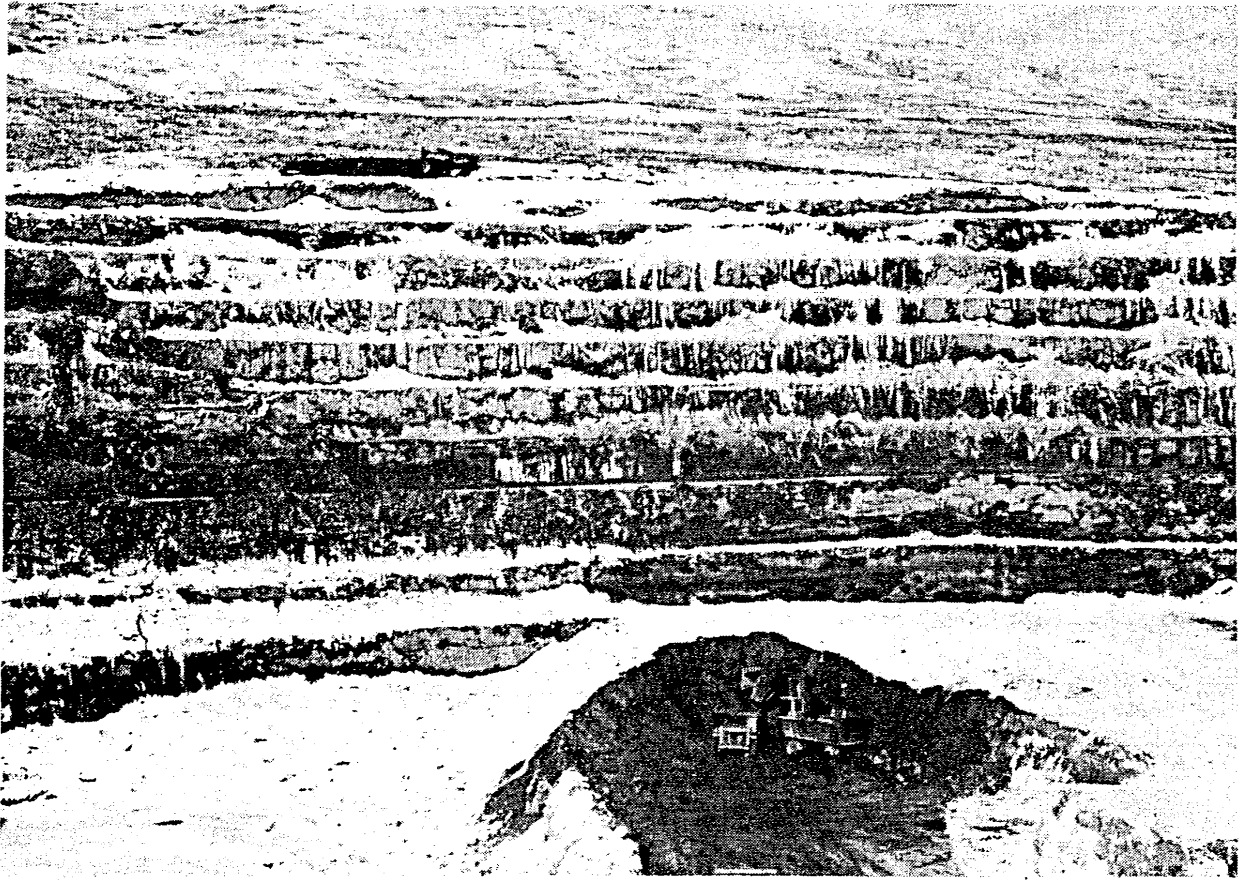
- (b) Immediately locate and record state mining claims to cover the abandoned claims.
- (c) Since your new claims are on state-selected land, you are not required to make the \$20-claim-rental payment to the state. However, you must make this payment within 90 days of the date the land is conveyed to state ownership. Therefore, you are well advised to make a \$20 rental deposit now. This nonrefundable deposit will be applied to the first rental year once the land is conveyed to the state.
- (d) Submit a Priority Tentative Approval (T.A.) request to the State Division of Mining. This will notify the state of your need to have the land conveyed as soon as possible.
- (e) There is no way of knowing how long it will take BLM to process a specific Priority T.A. request. If the abandonment of the federal claims is made near the end of the mining season, the government will have all winter to process the conveyance to the state.
- (f) The miner should be aware that there is no guarantee that the land will be conveyed to the state by the beginning of the following mining season, nor can the state guarantee the claim owner that the land eventually will be conveyed.

Changing the underlying ownership of mining ground from the federal to the state government is not a simple process nor without risk. It involves abandoning the federal mining claim with its grandfather rights and patent rights and locating new state mining claims in place of the federal claim.

Further information can be obtained at the following offices:

Alaska Division of Mining
Frontier Building
36 C Street, Suite 880
Anchorage, AK 99503
(907) 762-2518
1-800-478-2154

Alaska Division of Mining
3700 Airport Way
Fairbanks, AK 99709
(907) 451-2788



The Valdez Creek Mine, 80 km (50 mi) east of Cantwell, Alaska, has been the state's largest gold producer for seven of the last eight years. Cambior Alaska Inc. operates the mine, which produced 2,676 kg (86,052 oz) refined gold and provided 155 full-time equivalent jobs in 1992. The photo of pit A-7-IX of the mine looks north to the diversionary-ditch road. Photo courtesy of Cambior Alaska Inc.

Front cover: Processing mill of the Golden Zone Mine in the Chulitna-Cache Creek District northwest of Talkeetna, southcentral Alaska. Prior to World War II, the mine produced copper, gold, and silver from underground working. Recent mineral exploration has proved up an estimated 7,153 kg (230,000 oz) gold in about 1.9 million tonnes (2 million tons) of ore. Photo courtesy of Mr. Richard Hughes.

DEPARTMENT OF NATURAL RESOURCES

**Division of Geological & Geophysical Surveys
Division of Mining**

DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT

Division of Economic Development

