

# THE MINERAL INDUSTRY OF ALASKA

In 1995, Alaska climbed from 23d to 21st among the 50 States in total nonfuel mineral production value,<sup>1</sup> according to the U.S. Geological Survey (USGS). The estimated value for 1995 was \$594 million, about a 15% increase from that of 1994. This followed a more than 37% increase from 1993 to 1994 (based on final data). The State accounted for more than 1.5% of the U.S. total nonfuel mineral production value.

Overall, metallic minerals accounted for about 86% of Alaska's total nonfuel mineral production value, while the industrial minerals construction sand and gravel and crushed stone made up most of the remaining 14%. Increases in zinc and lead production at the Red Dog Mine were the main causes for the State's increased mineral value. Compared with 1994, the nonfuel mineral values of zinc, construction sand and gravel, lead, crushed stone, and silver increased in 1995, while gold showed a small decrease.

Based on USGS estimates of the quantities produced in the 50 States during 1995, Alaska remained first in zinc, second in lead, fifth in silver, and seventh<sup>2</sup> of the 14 gold-producing States. Additionally, significant quantities of construction sand and gravel were produced from the State's mine pits. Production of peat was not reported to the USGS, in part because of the seasonal nature of its mining in the State. The Alaska Geological Survey (AGS) estimated production to be about 27,000 cubic meters (35,000 cubic yards) for a nonfuel mineral value of \$157,500.

The AGS<sup>3</sup> reported that in 1995 there were many signs of growth and change in the Alaskan mineral industry. Cominco Alaska Inc. continued to increase production

of zinc-lead-silver concentrates from the Red Dog Mine in Northwest Alaska. The mine is now recognized as the largest producer of zinc in the world. In 1995, it supplied approximately 8% of the world's mine-produced zinc. Cominco nearly doubled its minable reserves at Red Dog with the discovery of the new Aqaluk Deposit, about one-third mile (one-half kilometer) north of the currently producing Main Deposit site.

The mill expansion project at the Red Dog Mine and development projects at the Fort Knox (open pit) and the Nixon Fork (underground) gold mines contributed many new jobs to the Alaskan economy. When construction of Fort Knox is completed (anticipated to be late 1996) it will be the State's largest gold mine. Production began at the Nixon Fork gold-copper mine. Greens Creek Mining Co., a Kennecott Corp. subsidiary, announced in November that it would invest \$87 million to bring the Greens Creek Mine (zinc-silver-gold-lead), which was mothballed in 1993, back into production by January 1997. By the end of 1995, about 100 employees were working at the mine site. Two major development projects continued in the Southeastern region, Coeur Alaska Inc.'s Kensington Mine and Echo Bay Mines, Alaska Inc.'s Alaska-Juneau (The "A-J") Mine. Both gold mine projects will be fully committed to permitting efforts in 1996.

Fewer job opportunities existed in placer gold mines and in industrial mineral mines and quarries throughout the State. Gold production declined about 22%, and there were 36 fewer placer mines than in 1994. Cambior Alaska Inc.'s Valdez Creek Mine, the State's largest gold mine for 12 years, closed permanently in September 1995. The placer industry, which employs many rural Alaskans, is expected to stabilize at a lower level of activity in 1996.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN ALASKA<sup>1 2</sup>

Mineral	1993		1994		1995 <sup>p</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Gemstones	NA	\$10	NA	\$10	NA	\$10
Gold <sup>3</sup> kilograms	2,780	32,200	<sup>4</sup> 5,740	<sup>4</sup> 71,100	<sup>4</sup> 5,630	<sup>4</sup> 67,600
Sand and gravel (construction) thousand metric tons	<sup>c</sup> 13,100	<sup>e</sup> 42,600	15,700	56,200	15,500	56,600
Stone (crushed) do.	3,530	<sup>e</sup> 25,000	3,870	24,100	4,000	25,000
Combined values of lead, silver, stone [crushed sandstone (1993)], tin (1993), and zinc	XX	292,000	XX	367,000	XX	445,000
Total	XX	391,000	XX	519,000	XX	594,000

<sup>a</sup>Estimated. <sup>p</sup>Preliminary. NA Not available. XX Not applicable.

<sup>1</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>2</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>3</sup>Recoverable content of ores, etc.

<sup>4</sup>Placer canvassing discontinued beginning 1994. May include placer data from other sources.

<sup>5</sup>Excludes certain stones; kind and value included with "Combined value" data.

But overall, mineral-industry-related employment increased 10%, from 3,083 in 1994 to 3,406 in 1995.

Alaska's metal and mineral-based recycling industry continued to grow. In 1995, the dollar value increased by nearly 50%, largely resulting from high ferrous scrap-metal prices in Asian and U.S. West Coast markets.

The State of Alaska, through the Division of Geological and Geophysical Surveys (DGGs), contracted for aeromagnetic geophysical mapping in the Rampart and Manley areas (central Alaska). The results were scheduled for release in the spring of 1996.

For the second year, the State Department of Natural Resources presented reclamation awards to mining firms for exemplary work in returning disturbed ground to useful condition as required by State law. The awards went to 10 placer operators and 1 hardrock mining company. Seven firms received recognition for excellent mine reclamation, while four firms (including Cambior Alaska for the Valdez Creek Mine reclamation) received the distinguished Governor's Award for outstanding reclamation of mined lands.

Every summer, the DGGs publishes a detailed report of the State's mineral industry activities and mineral production for the previous year. *Alaska's Mineral*

*Industry 1995—Special Report 50* is available to the public and may be obtained by contacting the DGGs as referenced above.

<sup>1</sup>The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending on the minerals or mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 1995 USGS mineral production data are estimates, as of Dec. 1995. Construction sand and gravel and crushed stone estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. Call MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset and request Document No. 1000 for a telephone listing of all mineral commodity specialists or call USGS information at (703) 648-4000 for the specialist's name and number.

<sup>2</sup>Gold figures in table 1, as reported to the U.S. Geological Survey, possibly understate actual 1993 production and value and overstate 1994 and 1995 production and value. The collection of gold placer mineral production data was discontinued by the U.S. Bureau of Mines (the Federal agency formerly responsible for U.S. nonfuel mineral production data collection) in 1994, and is now independently estimated by the USGS in collaboration with the State. Data collected by Alaska's State government indicate production to have been as follows: 1993—5,949 kilograms, \$68.64 million; 1994—5,663 kilograms, \$70.29 million; and 1995—4,413 kilograms, \$56.04 million. This does not effect Alaska's mineral production ranking among the gold-producing States.

<sup>3</sup>This report includes information provided by the AGS, more formally known as the Division of Geological and Geophysical Surveys of the Alaska Department of Natural Resources.

TABLE 2  
ALASKA:<sup>1</sup> CRUSHED STONE<sup>2</sup> SOLD OR USED BY PRODUCERS IN 1994, BY USE<sup>3</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch): <sup>4</sup>	50	\$110	\$2.20
Coarse aggregate, graded: <sup>5</sup>	28	339	12.10
Fine aggregate (-3/8 inch): <sup>6</sup>	20	212	10.60
Coarse and fine aggregates:			
Graded road base or subbase	135	881	6.53
Unpaved road surfacing	3	18	6.00
Crusher run or fill or waste	5	55	11.00
Other coarse and fine aggregates	4	29	7.25
Unspecified: <sup>7</sup>			
Actual	400	1,190	2.98
Estimated	3,230	21,300	6.61
Total	3,870	24,100	6.24

<sup>1</sup>Data derived in part from the Alaska Geological Survey.

<sup>2</sup>Includes granite, miscellaneous stone, sandstone, slate, and traprock.

<sup>3</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>4</sup>Includes riprap and jetty stone and other coarse aggregates.

<sup>5</sup>Includes concrete aggregate (coarse) and bituminous aggregate (coarse).

<sup>6</sup>Includes stone sand (concrete), stone sand (bituminous mix or seal), and screening (undesigned).

<sup>7</sup>Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3  
ALASKA:<sup>1</sup> CRUSHED STONE SOLD OR USED, BY KIND<sup>2</sup>

Kind	1993				1994			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Traprock	7	1,030	\$4,880	\$4.75	8	1,280	\$5,520	\$4.30
Sandstone	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	2	W	W	2.39
Granite	4	172	1,320	7.69	2	W	W	10.40
Slate	1	19	90	4.74	1	7	48	6.86
Miscellaneous stone	15	2,310	18,700	8.07	12	2,480	18,000	7.25
Total	XX	3,530	25,000	7.07	XX	3,870	24,100	6.24

<sup>1</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

<sup>2</sup>Data derived in part from the Alaska Geological Survey.

<sup>3</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>4</sup>Excludes sandstone from State total to avoid disclosing company proprietary data.

TABLE 4  
ALASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	245	\$1,660	\$6.77
Concrete products (blocks, brick, pipe, decorative, etc.)	33	213	6.45
Asphaltic concrete aggregates and other bituminous mixtures	276	3,160	11.50
Road base and coverings	1,240	5,530	4.47
Fill	845	3,480	4.12
Snow and ice control	30	234	7.80
Railroad ballast	49	300	6.12
Other	298	2,070	6.95
Unspecified: <sup>2</sup> Estimated	12,700	39,600	3.12
Total or average	15,700	56,200	3.58

<sup>1</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>2</sup>Includes production reported without a breakdown by end use and estimates for nonrespondents.



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