

THE MINERAL INDUSTRY OF OREGON

In 1995, for the fifth year in a row and the seventh in the last 9 years, Oregon was 38th among the 50 States in total nonfuel mineral production value,¹ according to the U.S. Geological Survey (USGS). The estimated value for 1995 was more than \$261 million, almost an 8% increase compared with that of 1994. This followed a 7.4% increase from 1993 to 1994 (based on final data). The State accounted for a little less than 1% of the U.S. total nonfuel mineral production value.

Industrial minerals accounted for nearly all of Oregon's nonfuel mineral production value, less than 1% resulting from the State's metal mine production. Crushed stone, by value, was Oregon's leading nonfuel mineral commodity, accounting for more than 40% of the State's total nonfuel mineral production value. Oregon's construction materials—crushed stone, construction sand and gravel, and portland cement, in descending order of value—represented more than 85% of the total value. Minimal quantities of copper and zinc and byproduct gold and silver were produced as a result of the continuing cleanup at Formosa Resources Corp.'s Silver Butte Mine, which ceased operation in 1993. Compared with 1994, the following nonfuel mineral values increased in 1995: crushed stone, portland cement, gemstones, pumice and pumicite, nickel ore, copper, zinc, and emery. Decreases occurred in construction sand and gravel, lime, diatomite, and gold.

Based on USGS estimates of the quantities produced in the 50 States during 1995, Oregon was the only State with mine production of nickel ore and emery. It remained the Nation's leading pumice-producing State and third of three diatomite-producing States; Oregon was third of five States that produced zeolites. Cominco American Inc.'s Nickel Mountain Mine, recently the sole domestic producer of primary nickel, resumed production in 1995, owing to an increase in nickel prices. According to the company, the mine was shut down in the latter half of 1993 because of market disruptions and low nickel prices caused, in part, by a surge in nickel exports from Russia. Production of other metals, especially primary aluminum and raw steel, resulted from the processing of materials acquired from other domestic and foreign sources. Oregon remained 13th in the Nation in the production of primary aluminum.

¹The 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 published in this chapter are estimated as of Dec. 1995. Estimates for some commodities, especially construction sand and gravel, crushed stone, and portland cement, are periodically updated. 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.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN OREGON^{1 2}

| Mineral | 1993 | | 1994 | | 1995 ³ | |
|---|---------------------|---------------------|------------------|-------------------|-------------------|-------------------|
| | Quantity | Value (thousands) | Quantity | Value (thousands) | Quantity | Value (thousands) |
| Clays thousand metric tons | 221 | \$1,410 | 240 | \$1,560 | 240 | \$1,560 |
| Copper ³ metric tons | 703 | 1,420 | 106 | 260 | 100 | 300 |
| Gemstones | NA | 2,140 | NA | 2,160 | NA | 4,270 |
| Nickel ore ⁴ metric tons | 2,460 | W | — | — | 1,650 | W |
| Pumice and pumicite do. | W | W | 220,000 | 2,760 | W | W |
| Sand and gravel (construction) thousand metric tons | ^e 15,800 | ^e 74,800 | 18,400 | 83,600 | 17,500 | 81,400 |
| Silver ³ metric tons | — | — | (⁵) | 10 | (⁵) | 10 |
| Stone (crushed) thousand metric tons | 18,900 | 84,700 | 18,900 | 90,100 | 21,500 | 105,000 |
| Talc and pyrophyllite metric tons | 64 | 67 | W | W | W | W |
| Zinc ³ do. | — | — | 118 | 128 | 118 | 138 |
| Combine value of cement (portland), diatomite, emery, gold (1994-95), lime, and values indicated by symbol W | XX | 61,600 | XX | 62,100 | XX | 68,200 |
| Total | XX | 226,000 | XX | 243,000 | XX | 261,000 |

^eEstimated. ³Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data.

XX Not applicable.

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

²Data are rounded to three significant digits; may not add to totals shown.

³Recoverable content of ores, etc.

⁴Production of ferronickel on a contained Ni basis has been as follows: 1993—4,878 metric tons valued at \$28.0 million; 1994 the Nickel Mountain Mine was idle; and in 1995—an estimated 8,200 metric tons valued at \$68.0 million.

⁵Less than 1/2 unit.

TABLE 2
OREGON: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1994, BY USE²

| Use | Quantity (thousand metric tons) | Value (thousands) | Unit value |
|--|---------------------------------------|----------------------|---------------|
| Coarse aggregate (+1 1/2 inch): | | | |
| Macadam | 15 | \$84 | \$5.60 |
| Riprap and jetty stone | 200 | 647 | 3.24 |
| Filter stone | 128 | 694 | 5.42 |
| Other coarse aggregate | 315 | 1,160 | 3.68 |
| Coarse aggregate, graded: | | | |
| Concrete aggregate, coarse | 132 | 626 | 4.74 |
| Bituminous aggregate, coarse | 475 | 2,380 | 5.01 |
| Bituminous surface-treatment aggregate | 229 | 1,550 | 6.75 |
| Railroad ballast | 88 | 452 | 5.14 |
| Other graded coarse aggregate | 185 | 1,030 | 5.55 |
| Fine aggregate (-3/8 inch): | | | |
| Stone sand, concrete | W | W | 7.16 |
| Stone sand, bituminous mix or seal | 208 | 1,590 | 7.63 |
| Screening, undesignated | 63 | 184 | 2.92 |
| Coarse and fine aggregates: | | | |
| Graded road base or subbase | 7,180 | 34,600 | 4.82 |
| Unpaved road surfacing | 1,130 | 5,100 | 4.53 |
| Terrazzo and exposed aggregate | 2 | 53 | 26.50 |
| Crusher run or fill or waste | 465 | 2,170 | 4.66 |
| Other coarse and fine aggregates | W | W | 2.63 |
| Other construction materials | 363 | 1,300 | 3.59 |
| Agricultural: Other agricultural uses | 1 | 6 | 6.00 |
| Chemical and metallurgical: Cement manufacture | (3) | (3) | 2.20 |
| Other miscellaneous uses: Sugar refining | (3) | (3) | 10.30 |
| Unspecified:⁴ | | | |
| Actual | (3) | (3) | 5.02 |
| Estimated | 3,030 | 13,700 | 4.52 |
| Total | 18,900 | 90,100 | 4.76 |

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."

¹Includes granite, limestone, miscellaneous stone, sandstone and quartzite, shell, slate, traprock and volcanic cinder and scoria.

²Data are rounded to three significant digits; may not add to totals shown.

³Withheld to avoid disclosing company proprietary data; included in "Total."

⁴Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3
OREGON: CRUSHED STONE SOLD OR USED, BY KIND¹

| 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 |
| Limestone | '1 | W | W | '\$2.20 | 1 | W | W | \$4.02 |
| Granite | 28 | 91 | \$482 | 5.30 | 27 | 54 | \$235 | 4.35 |
| Traprock | '290 | '16,600 | '75,400 | '4.54 | 295 | 15,200 | 71,500 | 4.72 |
| Sandstone and quartzite | 51 | 96 | 548 | 5.71 | 51 | 66 | 462 | 7.00 |
| Slate | 1 | W | W | 5.73 | 1 | W | W | 6.00 |
| Volcanic cinder and scoria | 51 | 116 | 682 | 5.88 | 51 | 104 | W | W |
| Shell | 1 | 39 | 138 | 3.54 | 1 | 32 | 103 | 3.22 |
| Miscellaneous stone | '11 | '1,220 | '5,550 | '4.53 | 37 | 2,570 | 13,300 | 5.19 |
| Total | XX | 18,900 | 84,700 | 4.48 | XX | 18,900 | 90,100 | 4.76 |

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

²Data are rounded to three significant digits; may not add to totals shown.

TABLE 4
OREGON: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1994, BY USE AND DISTRICT²

(Thousand metric tons and thousand dollars)

| Use | District 1 | | District 2 | | District 4 | |
|---|------------------|------------------|------------------|------------------|--------------------------------|--------------------------------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| Construction aggregates: | | | | | | |
| Coarse aggregate (+1 1/2 inch) ³ | 514 | 1,950 | 123 | 547 | 21 | 91 |
| Coarse aggregate, graded ⁴ | W | W | W | W | 544 | 3,280 |
| Fine aggregate (-3/8 inch) ⁵ | W | W | W | W | 33 | 229 |
| Coarse and fine aggregate ⁶ | 7,100 | 34,700 | 1,200 | 4,980 | 730 | 2,970 |
| Other construction materials | 729 | 4,380 | 110 | 539 | — | — |
| Agricultural ⁷ | — | — | 1 | 6 | — | — |
| Chemical and metallurgical ⁸ | — | — | — | — | (⁹) | (⁹) |
| Other miscellaneous uses ¹⁰ | — | — | — | — | (⁹) | (⁹) |
| Unspecified: ¹¹ | | | | | | |
| Actual | (⁹) | (⁹) | (⁹) | (⁹) | ¹² (⁹) | ¹² (⁹) |
| Estimated | (⁹) | (⁹) | (⁹) | (⁹) | 599 | 2,640 |
| Total | 12,900 | 62,900 | 2,110 | 8,700 | ¹² 3,890 | ¹² 18,600 |

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."

¹Production reported in District 3 was included with "District 4" to avoid disclosing company proprietary data.

²Data are round to three significant digits; may not add to totals shown.

³Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.

⁴Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregate.

⁵Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated).

⁶Includes graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, crusher run (select material or fill), and other coarse and fine aggregates.

⁷Includes other agricultural uses.

⁸Includes cement manufacture.

⁹Withheld to avoid disclosing company proprietary data; included in "Total."

¹⁰Includes sugar refining.

¹¹Includes production reported without a breakdown by end use and estimates for nonrespondents.

¹²Includes unspecified within all districts.

TABLE 5
OREGON: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY MAJOR USE CATEGORY¹

| Use | Quantity (thousand metric tons) | Value (thousands) | Value per ton |
|---|---------------------------------------|----------------------|------------------|
| Concrete aggregate (including concrete sand) | 5,030 | \$20,300 | \$4.03 |
| Plaster and gunite sands | 30 | 112 | 3.73 |
| Asphaltic concrete aggregates and other bituminous mixtures | 1,850 | 9,420 | 5.10 |
| Road base and coverings | 6,830 | 33,000 | 4.83 |
| Fill | 855 | 2,600 | 3.04 |
| Snow and ice control | 72 | 411 | 5.71 |
| Other ² | 678 | 3,080 | 4.55 |
| Unspecified: ³ | | | |
| Actual | 236 | 1,070 | 4.53 |
| Estimated | 2,820 | 13,700 | 4.84 |
| Total or average | 18,400 | 83,600 | 4.54 |

¹Data are rounded to three significant digits; may not add to totals shown.

²Includes filtration and railroad ballast.

³Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 6
OREGON: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

| Use | District 1 | | District 2 | | District 3 | | District 4 | |
|---------------------------------------|------------|--------|------------|--------|------------|-------|--------------------|--------------------|
| | Quantity | Value | Quantity | Value | Quantity | Value | Quantity | Value |
| Concrete aggregates ² | 3,770 | 14,800 | 1,020 | 3,840 | (3) | (3) | (3) | (3) |
| Asphaltic-bituminous mixtures | 1,140 | 5,930 | 639 | 2,720 | (3) | (3) | (3) | (3) |
| Road base and coverings | 5,630 | 27,900 | 753 | 3,190 | 29 | 168 | 425 | 1,710 |
| Fill | 458 | 1,190 | 290 | 1,080 | 82 | 263 | 24 | 63 |
| Snow and ice control | 72 | 411 | — | — | — | — | — | — |
| Other miscellaneous uses ⁴ | 624 | 2,920 | 37 | 61 | 17 | 100 | — | — |
| Unspecified: ⁵ | | | | | | | | |
| Actual | — | — | — | — | — | — | ⁶ 236 | ⁶ 1,070 |
| Estimated | 2,560 | 11,800 | — | — | — | — | 258 | 1,810 |
| Total | 14,300 | 65,000 | 2,730 | 10,900 | 191 | 822 | ⁶ 1,230 | ⁶ 6,920 |

¹Data are rounded to three significant digits; may not add to totals shown.

²Includes plaster and gunite sands.

³Withheld to avoid disclosing company proprietary data; included in "Total."

⁴Includes filtration and railroad ballast.

⁵Includes production reported without a breakdown by end use and estimates for nonrespondents.

⁶Includes unspecified within all districts.



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