

THE MINERAL INDUSTRY OF OREGON

In 1996, Oregon moved up one place in rank from 38th to 37th among the 50 States in total nonfuel mineral production value,¹ according to the U.S. Geological Survey (USGS). The estimated value for 1996 was about \$251 million, an almost 5% increase compared with that of 1995. This followed a 1.5% decrease from 1994 to 1995 (based on final 1995 data). The State accounted for a little less than 1% of the U.S. total nonfuel mineral production value.

Industrial minerals accounted for all of Oregon's raw nonfuel mineral production value. Crushed stone and construction sand and gravel, by value, are Oregon's two leading nonfuel mineral commodities, accounting for nearly 77% of the State's total nonfuel mineral production value. The combined value increases of these two commodities represented nearly all of Oregon's total net increase in nonfuel mineral production in 1996. Compared with 1995, other nonfuel mineral values that increased in 1996 were those of portland cement, diatomite, pumice and pumicite, and bentonite clays. Decreases occurred in lime (down slightly), gemstones, common clays, emery, and nickel ore.

Based on USGS estimates of the quantities produced in the 50 States during 1996, Oregon remained first in the production of pumice and pumicite, and it continued as the Nation's only State to produce emery. Oregon dropped in rank from third to fourth in diatomite and from fourth to fifth in gemstones (by value). Additionally, significant quantities of crushed stone and construction sand and gravel were produced in the State.

Glenbrook's Nickel Mountain Mine, was on a care and maintenance basis in 1996. The Glenbrook Nickel Co. is a joint venture of Cominco American Inc. and Cominco Resources International Ltd. Nickel Mountain has been the sole domestic producer of primary nickel in the United States in recent years, operating on an intermittent basis—mine production depending on the price of nickel.

The mine did not produce in 1996 owing to a decrease 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. With better prices during 1995, mining resumed but ceased again by the end of the year. In 1996, the company's Riddle nickel smelter used only lateritic ore imported from New Caledonia to produce ferronickel containing 48% to 52% nickel. The ore was supplied by Société Minière du Sud Pacifique and has a higher nickel content than the ore from Nickel Mountain. In 1995, Glenbrook restarted its ferrosilicon furnace. The ferrosilicon is used to make the ferronickel and had been brought on the open market until domestic ferrosilicon prices strengthened. 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 1996 USGS mineral production data published in this chapter are estimates as of February 1997. For some commodities (for example, construction sand and gravel, crushed stone, and portland cement), 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 # 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. This telephone listing may also be retrieved over the Internet at <http://minerals.er.usgs.gov/minerals/contacts/comdir.html>

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN OREGON 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1994		1995		1996 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays	240	1,560	240	1,270	174	1,980
Copper 3/	(4/)	260	--	--	--	--
Gemstones	NA	2,160	NA	4,570	NA	3,860
Nickel ore metric tons	--	--	1,560	W	-- 5/	--
Pumice and pumicite do.	220,000	2,760	W	W	W	W
Sand and gravel (construction)	18,400	83,600	18,200	85,000	19,100	90,700
Silver 3/ metric tons	(4/)	10	--	--	--	--
Stone (crushed)	18,900	90,100	20,700	95,700	21,600	102,000
Zinc 3/ metric tons	118	128	--	--	--	--
Combine value of cement (portland), diatomite, emery, gold (1994), lime, talc and pyrophyllite, and values indicated by symbol W	XX	62,100	XX	52,500	XX	52,800
Total	XX	243,000	XX	239,000	XX	251,000

p/ Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data.

XX Not applicable.

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

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

3/ Recoverable content of ores, etc.

4/ Less than 1/2 unit.

5/ The mine on Nickel Mountain was on care and maintenance basis in 1996.

TABLE 2
OREGON: CRUSHED STONE 1/ SOLD OR USED BY PRODUCERS IN 1995, BY USE 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	88	\$254	\$2.89
Riprap and jetty stone	184	618	3.36
Filter stone	62	329	5.31
Other coarse aggregate	64	200	3.13
Coarse aggregate, graded:			
Concrete aggregate, coarse	162	853	5.27
Bituminous aggregate, coarse	747	3230	4.32
Bituminous surface-treatment aggregate	263	1630	6.20
Railroad ballast	85	500	5.88
Other graded coarse aggregate	W	W	1.12
Fine aggregate (-3/8 inch):			
Stone sand, concrete	W	W	8.54
Stone sand, bituminous mix or seal	227	1570	6.93
Screening, undesignated	24	95	3.96
Coarse and fine aggregates:			
Graded road base or subbase	6400	31500	4.92
Unpaved road surfacing	1510	6400	4.24
Crusher run or fill or waste	815	3190	3.91
Other coarse and fine aggregates	W	W	3.79
Other construction materials	977	3730	3.81
Chemical and metallurgical: Cement manufacture	(3/)	(3/)	3.00
Other miscellaneous uses: Sugar refining	(3/)	(3/)	10.84
Unspecified: 4/			
Actual	4610	21100	4.58
Estimated	3460	15600	4.51
Total	20700	95700	4.63

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

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

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

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

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

TABLE 3
OREGON: CRUSHED STONE SOLD OR USED, BY KIND 1/

Kind	1994				1995			
	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	\$4.02	1	W	W	\$4.96
Granite	27	54	\$235	4.35	27	47	\$234	4.98
Traprock	296 r/	15,000 r/	71,400 r/	4.75 r/	284	18,300	84,500	4.63
Sandstone and quartzite	53 r/	313 r/	1,260 r/	4.01 r/	67	380	1,960	5.15
Slate	1	W	W	6.00	1	W	W	6.04
Volcanic cinder and scori	50 r/	52 r/	325 r/	6.25 r/	51	35	221	6.31
Shell	1	32	103	3.22	1	W	W	3.67
Miscellaneous stone	35 r/	2,490 r/	12,900 r/	5.19	34	889	3,440	3.87
Total	XX	18,900	90,100	4.76	XX	20,700	95,700	4.63

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

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

TABLE 4
OREGON: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1995, BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:								
Coarse aggregate (+1 1/2 inch) 2/	312	1,080	74	273	5	14	7	39
Coarse aggregate, graded 3/	800	3,940	W	W	W	W	233	643
Fine aggregate (-3/8 inch) 4/	231	1,660	W	W	--	--	W	W
Coarse and fine aggregate 5/	5,640	27,500	1,780	7,090	W	W	W	W
Other construction materials	332	2,040	283	335	944	4,950	959 6/	4,530 6/
Chemical and metallurgical 7/	--	--	--	--	--	--	(8/)	(8/)
Other miscellaneous uses 9/	--	--	--	--	--	--	(8/)	(8/)
Unspecified: 10/								
Actual	3,520	17,200	--	--	--	--	1,090 6/	3,930 6/
Estimated	2,480	11,600	559	2,080	430	1,920	--	--
Total	13,300	65,000	2,700	9,780	1,380	6,880	32,800 6/	14,100 6/

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

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

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

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

4/ Includes stone sand (concrete), stone sand (bituminous mix or seal), and screening (undesigned).

5/ Includes graded road base or subbase, unpaved road surfacing, crusher run (select material or fill), and other coarse and fine aggregates.

6/ Includes unspecified within all districts.

7/ Includes cement manufacture.

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

9/ Includes sugar refining.

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

TABLE 5
 OREGON: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1995,
 BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	5,100	\$24,200	\$4.75
Plaster and gunite sands	8	79	9.88
Concrete products (blocks, bricks, pipe, decorative, etc.)	3	15	5.00
Asphaltic concrete aggregates and other bituminous mixtures	1,280	7,060	5.52
Road base and coverings 2/	3,860	19,200	4.99
Fill	898	3,060	3.41
Snow and ice control	60	385	6.42
Other 3/	623	3,030	4.86
Unspecified: 4/			
Actual	1,870	9,130	4.89
Estimated	4,540	18,800	4.14
Total or average	18,200	85,000	4.66

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

2/ Includes road and other stabilization (cement).

3/ Includes filtration.

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

TABLE 6
 OREGON: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1995, BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4		Unspecified within all districts	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates (including concrete sand) 2/	4,080	19,300	578	2,840	91	699	360	1,470	--	--
Concrete (blocks, brick, pipe, decorative, etc.)	--	--	--	--	--	--	--	--	3	15
Asphaltic concrete aggregates and road base materials 3/	3,900	20,000	924	4,520	6	50	304	1,740	--	--
Other miscellaneous uses 4/	1,180	4,860	173	582	93	362	11	88	127	588
Unspecified: 5/										
Actual	1,440	7,130	--	--	--	--	--	--	429	2,000
Estimated	3,730	15,500	755	3,060	--	--	56	250	--	--
Total	14,300	66,800	2,430	11,000	191	1,110	732	3,540	559	2,600

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

2/ Includes plaster and gunite sands.

3/ Includes road and other stabilization.

4/ Includes filtration and snow and ice control.

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