



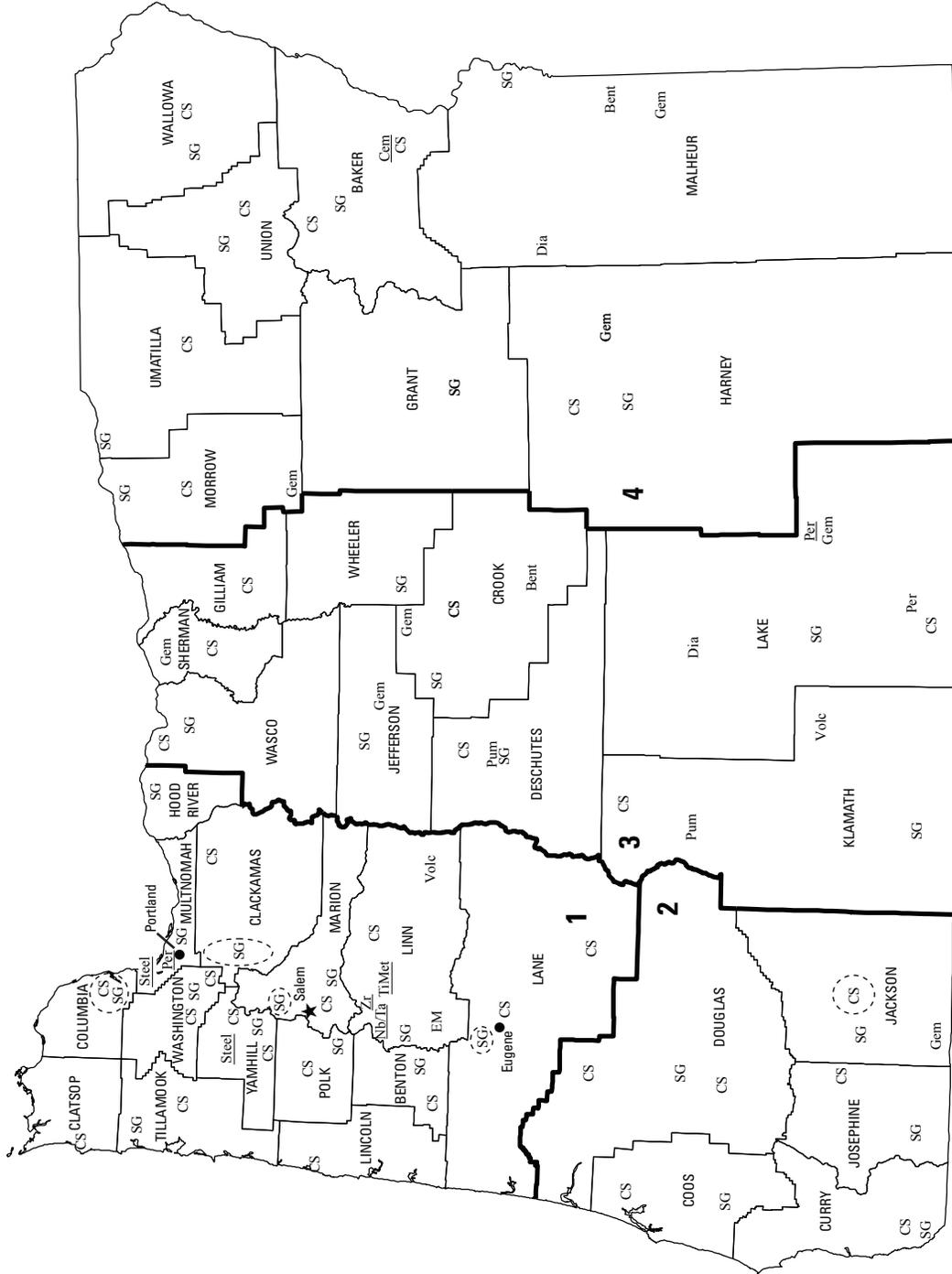
# 2009 Minerals Yearbook

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**OREGON [ADVANCE RELEASE]**

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# OREGON



## LEGEND

County boundary

Capital

City

Crushed stone/sand and gravel district boundary

## MINERAL SYMBOLS

(Principal producing areas)

- Bent Bentonite
- Cem Cement plant
- CS Crushed stone
- Dia Diatomite
- EM Emery
- Gem Gemstones
- Nb/Ta Niobium (columbium) and tantalum plant
- Per Perlite
- Per Perlite plant
- Pum Pumice and pumicite
- SG Construction sand and gravel
- Steel Steel plant
- TiMet Titanium metal plant
- Volc Volcanic cinder
- Zr Zirconium plant
- (Dashed circle) Concentration of mineral operations

0 50 100 Kilometers

Albers equal area projection

# THE MINERAL INDUSTRY OF OREGON

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Oregon Department of Geology and Mineral Industries for collecting information on all nonfuel minerals.

In 2009, Oregon's nonfuel raw mineral production<sup>1</sup> was valued at \$314 million, based upon annual U.S. Geological Survey (USGS) data. This was a decrease of \$88 million, or almost 22%, from the State's total nonfuel mineral value of \$402 million in 2008, which followed a \$104 million, or almost 21%, decrease from a total of \$506 million in 2007. The State declined in rank to 36th from 35th among the 50 States in total nonfuel mineral production value.

Oregon's top five mineral commodities, in descending order of production value, remained unchanged from those of 2007–08: crushed stone, construction sand and gravel, portland cement, diatomite, and crude perlite. The top five mineral commodities continued to account for almost 98% of the State's total nonfuel raw mineral production value in 2009. Oregon also continued to produce emery, lime, and pumice and pumicite. Crushed stone and construction sand and gravel accounted for 70% of Oregon's total nonfuel mineral production value, down slightly from 73% in 2007–08.

In 2009, only emery and lime production increased or remained flat, with production values increasing significantly for both commodities. All other mineral commodities experienced

<sup>1</sup>The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the 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 2009 USGS mineral production data published in this chapter are those available as of September 2011. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

decreases in production and production value, with the decline in construction aggregates having the largest impact on the overall production value of the State. Crushed stone had the largest decrease in production value in 2009, down by \$55 million, or almost 32%, to \$119 million in 2009, from \$174 million in 2008, which followed a \$37 million, or almost 18%, decrease from \$211 million in 2007. The total production of crushed stone in 2009, 15.8 million metric tons (Mt), was almost one-half of that in 2007, 30.6 Mt, and one-third less than the 2008 total, 23.5 Mt. Construction sand and gravel had the next largest decrease in production value, \$19 million, from \$121 million in 2008 to \$102 million in 2009, with production decreasing by 2.7 Mt, or 18%, from 14.9 Mt in 2008 to 12.2 Mt in 2009. Portland cement, diatomite, and crude perlite followed. These three mineral commodities (actual values withheld—company proprietary data) were down almost \$13.8 million, combined, with their production down by an average of 16% from that of 2008.

In 2009, Oregon was the only State with reported emery production (actual production data withheld—company proprietary data). The State continued to rank second in the quantity of crude perlite produced among the six perlite-producing States, third in the production of diatomite out of four producing States. The State rose from fifth to second in the production of pumice and pumicite. Oregon ranked second for the production of natural gemstones (based upon production value). The State remained a moderate producer of natural aggregates, including crushed stone and construction sand and gravel, ranking among the top one-half of producing States.

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

(Thousand metric tons and thousand dollars)

| Mineral  | 2007     |                      | 2008                |                      | 2009     |         |
|--|----------|----------------------|---------------------|----------------------|----------|---------|
|  | Quantity | Value                | Quantity            | Value                | Quantity | Value   |
| Gemstones, natural   | NA       | 2,150                | NA                  | 1,620                | NA       | 1,220   |
| Sand and gravel, construction  | 21,200   | 164,000 <sup>†</sup> | 14,900 <sup>†</sup> | 121,000 <sup>†</sup> | 12,200   | 102,000 |
| Stone, crushed   | 30,600   | 211,000              | 23,500 <sup>†</sup> | 174,000 <sup>†</sup> | 15,800   | 119,000 |
| Combine values of cement (portland), clays [bentonite, common (2007–08)], diatomite, emery (2008–09), lime, perlite (crude), pumice and pumicite | XX       | 128,000              | XX                  | 106,000              | XX       | 91,500  |
| Total  | XX       | 506,000 <sup>†</sup> | XX                  | 402,000 <sup>†</sup> | XX       | 314,000 |

<sup>†</sup>Revised. 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 no more than three significant digits; may not add to totals shown.

TABLE 2  
OREGON: CRUSHED STONE SOLD OR USED, BY TYPE<sup>1</sup>

| Type                       | 2008               |                                 |                      | 2009               |                                 |                   |
|----------------------------|--------------------|---------------------------------|----------------------|--------------------|---------------------------------|-------------------|
|                            | Number of quarries | Quantity (thousand metric tons) | Value (thousands)    | Number of quarries | Quantity (thousand metric tons) | Value (thousands) |
| Granite                    | 11                 | 567                             | \$4,340              | 11                 | 564                             | \$4,500           |
| Traprock                   | 123 <sup>r</sup>   | 12,300 <sup>r</sup>             | 89,300 <sup>r</sup>  | 98                 | 6,930                           | 55,500            |
| Volcanic cinder and scoria | 4                  | 177                             | 1,220                | 2                  | 4                               | 30                |
| Miscellaneous stone        | 84 <sup>r</sup>    | 10,500 <sup>r</sup>             | 79,300 <sup>r</sup>  | 74                 | 8,310                           | 58,900            |
| Total                      | XX                 | 23,500 <sup>r</sup>             | 174,000 <sup>r</sup> | XX                 | 15,800                          | 119,000           |

<sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3  
OREGON: CRUSHED STONE SOLD OR USED BY PRODUCERS  
IN 2009, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

| Use                                    | Quantity | Value   |
|--|----------|---------|
| Construction:                          |          |         |
| Coarse aggregate (+1½ inch):           |          |         |
| Macadam                                | W        | W       |
| Riprap and jetty stone                 | 13       | 189     |
| Filter stone                           | W        | W       |
| Other coarse aggregate                 | 172      | 1,480   |
| Coarse aggregate, graded:              |          |         |
| Concrete aggregate, coarse             | W        | W       |
| Bituminous aggregate, coarse           | 252      | 2,270   |
| Bituminous surface-treatment aggregate | W        | W       |
| Railroad ballast                       | 103      | 948     |
| Other graded coarse aggregate          | 27       | 449     |
| Fine aggregate (-¾ inch):              |          |         |
| Stone sand, concrete                   | W        | W       |
| Stone sand, bituminous mix or seal     | 91       | 751     |
| Screening, undesignated                | W        | W       |
| Other fine aggregate                   | 83       | 1,130   |
| Coarse and fine aggregates:            |          |         |
| Graded road base or subbase            | 1,150    | 7,700   |
| Unpaved road surfacing                 | 83       | 559     |
| Terrazzo and exposed aggregate         | W        | W       |
| Crusher run or fill or waste           | 189      | 1,200   |
| Other coarse and fine aggregates       | 438      | 3,650   |
| Unspecified: <sup>2</sup>              |          |         |
| Reported                               | 5,950    | 43,800  |
| Estimated                              | 7,170    | 54,100  |
| Total                                  | 15,800   | 119,000 |

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

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 4  
 OREGON: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2009,  
 BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

| Use                                      | District 1 |        | District 2 |        | District 3            |        |
|--|------------|--------|------------|--------|-----------------------|--------|
|  | Quantity   | Value  | Quantity   | Value  | Quantity              | Value  |
| Construction:                            |            |        |            |        |                       |        |
| Coarse aggregate (+1½ inch) <sup>2</sup> | 58         | 605    | W          | W      | W                     | W      |
| Coarse aggregate, graded <sup>3</sup>    | 208        | 2,280  | --         | --     | W                     | W      |
| Fine aggregate (-¾ inch) <sup>4</sup>    | 153        | 1,680  | --         | --     | W                     | W      |
| Coarse and fine aggregates <sup>5</sup>  | 1,070      | 8,360  | W          | W      | W                     | W      |
| Unspecified: <sup>6</sup>                |            |        |            |        |                       |        |
| Reported                                 | 1,860      | 14,800 | 697        | 6,020  | 524                   | 4,700  |
| Estimated                                | 4,720      | 33,800 | 1,320      | 10,600 | 658                   | 5,770  |
| Total                                    | 8,070      | 61,500 | 2,200      | 18,100 | 1,610                 | 13,600 |
|  |            |        | District 4 |        | Unspecified districts |        |
|  |            |        | Quantity   | Value  | Quantity              | Value  |
| Construction:                            |            |        |            |        |                       |        |
| Coarse aggregate (+1½ inch) <sup>2</sup> |            |        | W          | W      | 32                    | 134    |
| Coarse aggregate, graded <sup>3</sup>    |            |        | W          | W      | --                    | --     |
| Fine aggregate (-¾ inch) <sup>4</sup>    |            |        | W          | W      | --                    | --     |
| Coarse and fine aggregates <sup>5</sup>  |            |        | W          | W      | 163                   | 765    |
| Unspecified: <sup>6</sup>                |            |        |            |        |                       |        |
| Reported                                 |            |        | 700        | 2,570  | 2,170                 | 15,800 |
| Estimated                                |            |        | 273        | 2,080  | 208                   | 1,870  |
| Total                                    |            |        | 1,360      | 7,180  | 2,570                 | 18,500 |

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregates.

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

<sup>4</sup>Includes screening (undesignated), stone sand (bituminous mix or seal), stone sand (concrete), and other fine aggregates.

<sup>5</sup>Includes crusher run or fill or waste, graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, and other coarse and fine aggregates.

<sup>6</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
 OREGON: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2009,  
 BY MAJOR USE CATEGORY<sup>1</sup>

| Use   | Quantity<br>(thousand<br>metric tons) | Value<br>(thousands) | Unit<br>value |
|---|---------------------------------------|----------------------|---------------|
| Concrete aggregate and concrete products                    | 991                                   | \$10,700             | \$10.82       |
| Plaster and gunit sands                                     | 20                                    | 120                  | 6.00          |
| Asphaltic concrete aggregates and other bituminous mixtures | 443                                   | 2,880                | 6.49          |
| Road base and coverings <sup>2</sup>                        | 1,930                                 | 14,200               | 7.36          |
| Fill  | 329                                   | 1,840                | 5.59          |
| Snow and ice control  | 4                                     | 32                   | 8.00          |
| Other miscellaneous uses <sup>3</sup>                       | 8                                     | 126                  | 15.75         |
| Unspecified: <sup>4</sup>                                   |                                       |                      |               |
| Reported  | 4,010                                 | 36,400               | 9.07          |
| Estimated   | 4,450                                 | 36,000               | 8.08          |
| Total or average  | 12,200                                | 102,000              | 8.39          |

<sup>1</sup>Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Includes road and other stabilization (cement).

<sup>3</sup>Includes railroad ballast.

<sup>4</sup>Reported and estimated production without a breakdown by end use.

TABLE 6  
 OREGON: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2009,  
 BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

| Use  | District 1 |        | Districts 2           |        | District 3 |       |
|--|------------|--------|-----------------------|--------|------------|-------|
|  | Quantity   | Value  | Quantity              | Value  | Quantity   | Value |
| Concrete aggregate and concrete products <sup>2</sup>              | 742        | 7,020  | 74                    | 649    | 88         | 1,150 |
| Asphaltic concrete aggregates and road base materials <sup>3</sup> | 1,580      | 11,300 | 317                   | 2,480  | 193        | 1,430 |
| Fill   | 136        | 722    | 6                     | 49     | 171        | 1,020 |
| Other miscellaneous uses <sup>4</sup>                              | (5)        | 9      | 1                     | 7      | 6          | 101   |
| Unspecified: <sup>6</sup>  |            |        |                       |        |            |       |
| Reported   | 3,230      | 28,500 | 590                   | 6,420  | 128        | 1,160 |
| Estimated  | 3,150      | 24,800 | 402                   | 4,290  | 483        | 3,580 |
| Total  | 8,840      | 72,400 | 1,390                 | 13,900 | 1,070      | 8,430 |
|  | District 4 |        | Unspecified districts |        |            |       |
|  | Quantity   | Value  | Quantity              | Value  |            |       |
| Concrete aggregate and concrete products <sup>2</sup>              | 107        | 2,020  | --                    | --     |            |       |
| Asphaltic concrete aggregates and road base materials <sup>3</sup> | 287        | 1,810  | --                    | --     |            |       |
| Fill   | 16         | 52     | --                    | --     |            |       |
| Other miscellaneous uses <sup>4</sup>                              | 5          | 42     | --                    | --     |            |       |
| Unspecified: <sup>6</sup>  |            |        |                       |        |            |       |
| Reported   | 28         | 229    | 36                    | 75     |            |       |
| Estimated  | 421        | 3,320  | --                    | --     |            |       |
| Total  | 864        | 7,470  | 36                    | 75     |            |       |

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (cement).

<sup>4</sup>Includes railroad ballast and snow and ice control.

<sup>5</sup>Less than ½ unit.

<sup>6</sup>Reported and estimated production without a breakdown by end use.