

# Pumice and Volcanic Cinder

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The quantity of pumice, pumicite, and volcanic cinder sold or used by producers and the quantity of pumice imported for consumption to meet the increased demand for pumiceous materials in construction-related uses set record highs in 1972. Do-

mestic production was 3.8 million tons valued at \$6.5 million from 220 operations in 16 States. Pumice imports in 1972 totaled nearly 600,000 tons valued at a record \$1.5 million.

## DOMESTIC PRODUCTION

Domestic production of pumiceous materials in 1972 was 12% higher in quantity and 25% higher in value than in 1971. The quantity produced in 1972 was 3.8 million tons, a record total. The previous high was established in 1969 when production of pumice, pumicite, and volcanic cinder amounted to 3.6 million tons. The value of 1972 output was \$6.54 million, which was the highest since 1966. Volcanic cinder, ash, and scoria comprised 79% of the U.S. output of pumiceous materials and was valued at a record \$4.66 million.

Domestic output in 1972 came from 101 firms, individuals, and governmental agencies producing from 220 operations in 16

States. The principal producing States, in order of output, were Oregon, Arizona, and California, and their combined output accounted for two-thirds of the national total. Other States with significant output were Hawaii, Nevada, and New Mexico. Of the six leading States, only Arizona and Oregon showed a decrease in production from that of 1971. California led all producing States with 95 active operations, followed by Arizona with 34, and Hawaii with 22. Volcanic cinder was produced in 13 of the 16 States and in American Samoa from a mine operated by the Samoan Government.

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Table 1.—Pumice, pumicite, and volcanic cinder sold or used by producers in the United States<sup>1</sup>

(Thousand short tons and thousand dollars)

Year	Pumice and pumicite		Volcanic cinder		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1968	481	1,360	3,049	4,210	3,530	5,570
1969	598	1,349	3,011	3,701	3,609	5,050
1970	490	1,233	2,546	3,438	3,036	4,671
1971	540	1,396	2,851	3,818	3,391	5,214
1972	790	1,878	3,023	4,661	3,813	6,539

<sup>1</sup> Revised.

<sup>1</sup> Values f.o.b. mine, (1968-71); value f.o.b. mine or mill, 1972.

**Table 2.—Pumice, pumicite and volcanic cinder sold or used by producers in the United States, by State**

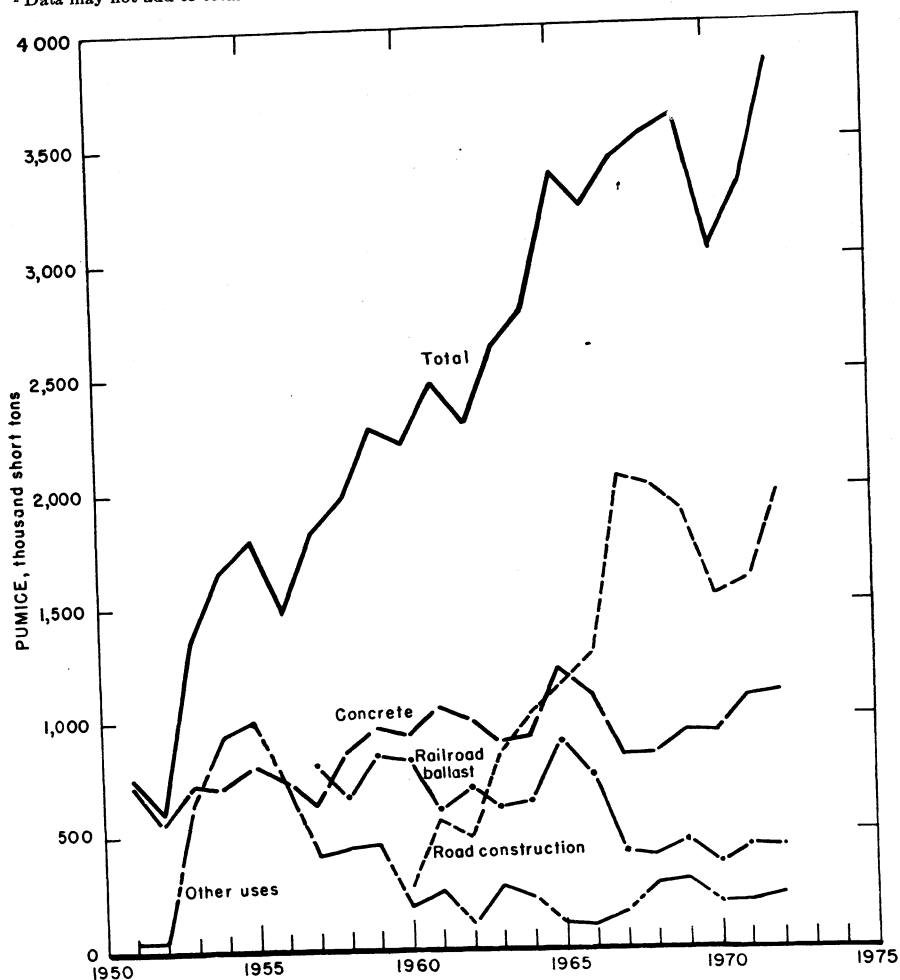
(Thousand short tons and thousand dollars)

State	1971		1972	
	Quantity	Value	Quantity	Value
Arizona.....	949	625	915	722
California.....	699	1,179	731	1,507
Colorado.....	62	W	59	W
Hawaii.....	289	779	379	762
Nevada.....	112	232	W	W
New Mexico.....	287	601	311	809
Oregon.....	r 943	r 1,389	923	1,512
Texas.....	4	4	W	W
Utah.....	6	10	14	26
Other States <sup>1</sup> .....	40	395	482	1,199
Total <sup>2</sup> .....	r 3,391	r 5,214	3,813	6,539
American Samoa.....	10	35	6	27

<sup>r</sup> Revised. W Withheld to avoid disclosing individual company confidential data; included with "Other States."

<sup>1</sup> Colorado (value), Idaho, Kansas, Nebraska, Nevada (1972), North Dakota (1972), Oklahoma, Texas (1972), Washington, and Wyoming (1972).

<sup>2</sup> Data may not add to totals shown because of independent rounding.



**Figure 1.—Pumice and volcanic cinder sold or used by producers in the United States, by use.**

## CONSUMPTION AND USES

Road construction (including ice control and maintenance) and concrete admixture and aggregate, the principal end uses of pumiceous materials, accounted for 52% and 31%, respectively, of U.S. consumption of pumice and volcanic cinder in 1972. Of the remaining 17%, railroad ballast made up 11% and abrasive materials and other uses, 6%. Landscaping and roofing, combined, accounted for three-fourths of the

212,000 tons of pumice and volcanic cinder included under "other uses" in table 3.

Compared with consumption in 1971, use in road construction increased 18%; use in concrete admixture and aggregate, 11%; and other uses, 9%. On the other hand, use as abrasive materials in cleaning and scouring compounds decreased 25% compared with that of 1971, but use in railroad ballast declined only 1%.

**Table 3.—Pumice, pumicite, and volcanic cinder sold or used by producers in the United States, by use**

(Thousand short tons and thousand dollars)

Use	1971		1972	
	Quantity	Value	Quantity	Value
Abrasive-cleaning and scouring compounds.....	28	79	21	207
Concrete admixture and concrete aggregate.....	1,077	2,137	1,197	2,406
Railroad ballast.....	426	280	421	391
Road construction (includes ice control and maintenance).....	1,664	1,905	1,963	2,310
Other uses <sup>1</sup> .....	195	813	212	1,225
<b>Total<sup>2</sup>.....</b>	<b>1,386</b>	<b>5,214</b>	<b>3,813</b>	<b>6,539</b>

<sup>1</sup> Revised.

<sup>2</sup> Includes miscellaneous abrasive uses, absorbents, heat-or-cold-insulating medium, landscaping, roofing, and miscellaneous uses.

<sup>3</sup> Data may not add to totals shown because of independent rounding.

## PRICES

The average value for crude pumice, pumicite, and volcanic cinder sold and used decreased from \$1.07 per ton in 1971 to \$0.98 per ton in 1972. Prepared pumice, pumicite, and volcanic cinder, however, increased in average value from \$2.20 per ton in 1971 to \$2.42 per ton. The weighted average value of pumice, pumicite, and volcanic cinder sold and used was \$1.71 per ton compared with \$1.54 per ton the previous year. The weighted average value increase of \$0.17 was due in large part to rising milling costs and greater demand for prepared material.

The average 1972 price per ton for pumice and volcanic cinder (scoria) used in cleaning and scouring compounds was \$9.86, an increase of \$7.04 from the 1971 price; for concrete admixture and aggregate, \$2.01, a \$0.03 increase; for railroad

ballast, \$0.93, a \$0.27 increase; for road construction, \$1.18, a \$0.04 increase; and for other uses, including landscaping and roofing, \$5.78, a \$1.61 increase.

Price quotations for pumice in Chemical Marketing Reporter (formerly Oil, Paint, and Drug Reporter) remained unchanged from 1971 and were as follows per pound, bagged, in ton lots: Domestic, fine, \$0.0460 to \$0.0487; domestic, medium, \$0.0510; domestic, coarse, \$0.0460; imported (Italian), silk-screened, coarse, \$0.06 to \$0.076; imported, fine, \$0.05; and imported (Italian), sun-dried, fine and coarse, \$91 per ton.

Prices quoted at yearend in the American Paint Journal also remained unchanged from 1971, and were as follows for pumice stone per pound, in barrels, f.o.b. New York or Chicago: Powdered \$0.0445 to \$0.08, and lump \$0.0665 to \$0.09.

## FOREIGN TRADE

The quantity of pumice exported in 1972 was 28% lower than in 1971, and the value was also lower by 33%. Of the 256 short tons exported to 12 countries, Canada re-

ceived 65% of the exports.

Pumice imported for consumption set a record in 1972, in both quantity and value. Nearly 600,000 short tons was imported,

of which 98% was obtained from Greece and Italy, to meet the growing demand for pumice used in the manufacture of concrete masonry products. Total value of all import classes of pumice was \$1.5 million compared with \$1.1 million in 1971. Imported pumice used in the manufacture of concrete masonry products increased 51% from 388,312 tons in 1971 to 587,269 tons, and imports classed as crude or unmanufactured increased 3% from 8,833 tons to 9,094 tons in 1972. Imports classed as wholly or partly manufactured, however, decreased 4% from 2,588 tons in 1971 to 2,489 tons.

Pumice stone, TSUS No. 519.05, for use in concrete products continued to be admitted into the United States duty free. Duties for other pumice products were as

follows: TSUS No. 519.11, crude or crushed pumice, valued not over \$15 per ton, 0.02 cent per pound; TSUS No. 519.14, crude or crushed pumice, valued over \$15 per ton, 0.04 cent per pound; TSUS No. 519.31, grains or ground, pulverized or refined, 0.17 cent per pound; and TSUS Nos. 519.93 and 523.61, millstones, abrasive wheels, and abrasive articles n.s.p.f. and articles, n.s.p.f., 7% ad valorem.

Table 4.—U.S. exports of pumice

Year	Short tons	Value (thousands)
1969	533	\$77
1970	304	70
1971	357	51
1972	256	34

Table 5.—U.S. imports for consumption of pumice, by class and country

Country	Crude or unmanufactured		Wholly or partly manufactured		Used in the manufacture of concrete masonry products		Manufactured n.s.p.f.
	Short tons	Value (thousands)	Short tons	Value (thousands)	Short tons	Value (thousands)	Value (thousands)
<b>1971:</b>							
Greece	22	( <sup>1</sup> )	--	--	241,639	\$455	--
Italy	8,811	\$109	2,588	\$143	144,961	372	\$14
Leeward and Windward Islands	--	--	--	--	1,712	5	--
Other <sup>2</sup>	--	--	--	--	--	--	4
Total	8,833	109	2,588	143	388,312	832	18
<b>1972:</b>							
Greece	--	--	--	--	257,759	544	--
Italy	9,094	149	2,489	149	329,510	657	19
Mexico	--	--	( <sup>1</sup> )	1	--	--	--
Other <sup>3</sup>	--	--	--	--	--	--	5
Total	9,094	149	2,489	150	587,269	1,201	24

<sup>1</sup> Less than ½ unit.

<sup>2</sup> Canada, Hong Kong, Belgium-Luxembourg, United Kingdom.

<sup>3</sup> Canada, Hong Kong, Estonia, West Germany, Japan.

Table 6.—Pumice and related volcanic materials: World production by country (Thousand short tons)

Country <sup>1</sup>	1970	1971	1972 <sup>2</sup>
Argentina <sup>2</sup>	36	21	• 20
Austria: Pozzolan	22	36	• 40
Cape Verde Islands: Pozzolan	19	10	• 11
Chile: Pozzolan	179	161	175
Dominica	68	• 70	• 70
Egypt, Arab Republic of	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
France:			
Pumice	1	• 1	• 1
Pozzolan and lapilli	737	772	691
Germany, West (marketable)	• 4,645	5,534	• 5,400
Greece:			
Pumice	497	462	• 460
Pozzolan	645	675	• 680
Guadeloupe: Tuff (pozzolanic) <sup>e</sup>	50	50	50
Guatemala: Volcanic ash (for cement) <sup>e</sup>	50	50	60
Iceland	12	26	• 19

Table 6.—Pumice and related volcanic materials: World production by country—Continued  
(Thousand short tons)

Country <sup>1</sup>	1970	1971	1972 <sup>2</sup>
Italy:			
Pumice and pumiceous lapilli .....	849	1,242	1,250
Pozzolan .....	4,693	4,700	4,700
Martinique: Pumice <sup>3</sup> .....	20	20	20
New Zealand .....	21	14	14
Spain <sup>4</sup> .....	220	172	180
United States (sold or used by producers):			
Pumice and pumicite .....	490	540	790
Volcanic cinder <sup>5</sup> .....	2,548	2,861	3,029
Total .....	15,802	17,417	17,660

<sup>0</sup> Estimate.   <sup>2</sup> Preliminary.   <sup>3</sup> Revised.

<sup>1</sup> Pumice is also produced in Iran, Japan, Mexico, Turkey and the U.S.S.R. (sizeable quantity), but data on production are not available. Japan's last available output figure 110,000 tons in 1958.

<sup>2</sup> Unspecified volcanic materials produced mainly for use in construction products.

<sup>3</sup> Less than ½ unit.

<sup>4</sup> Exports.

<sup>5</sup> Includes Canary Islands.

<sup>6</sup> Includes American Samoa.

