

TABLE 19.—Stone¹ production in 1963, by counties
(Thousand short tons and thousand dollars)

County	Quantity	Value	County	Quantity	Value
Alameda.....	1,974	\$2,188	Plumas.....	(²)	\$10
Amador.....	(²)	(²)	Riverside.....	1,389	3,451
Butte.....	70	70	Sacramento.....	2	5
Calaveras.....	4,649	6,357	San Benito.....	(²)	(²)
Contra Costa.....	2,829	4,490	San Bernardino.....	5,450	8,194
Del Norte.....	90	100	San Diego.....	1,130	1,827
El Dorado.....	582	1,727	San Francisco.....	(²)	(²)
Fresno.....	216	578	San Luis Obispo.....	209	1,018
Glenn.....	4	10	San Mateo.....	2,076	2,762
Humboldt.....	309	423	Santa Barbara.....	588	883
Imperial.....	28	32	Santa Clara.....	4,919	3,508
Inyo.....	143	676	Santa Cruz.....	1,321	1,795
Kern.....	2,898	3,423	Shasta.....	468	495
Kings.....	155	259	Sierra.....	(²)	(²)
Lassen.....	14	17	Siskiyou.....	167	288
Los Angeles.....	1,908	3,612	Solano.....	65	122
Madera.....	13	(²)	Sonoma.....	264	378
Marin.....	(²)	(²)	Tehama.....	29	43
Mariposa.....	6	27	Trinity.....	39	36
Mendocino.....	70	128	Tulare.....	110	362
Modoc.....	(²)	(²)	Tuolumne.....	191	1,038
Mono.....	(²)	(²)	Ventura.....	332	948
Monterey.....	(²)	(²)	Yuba.....	3	6
Napa.....	(²)	(²)	Other counties ³	3,232	6,883
Orange.....	16	13			
Placer.....	19	71	Total.....	37,977	58,253

¹ Includes stone used in cement and lime.² Included with "Other counties" to avoid disclosing individual company confidential data.³ Less than 500 short tons.⁴ Less than \$500.⁵ Includes Amador, Marin, Monterey, Napa, San Benito, San Francisco, and Sierra.

TABLE 20.—Stone sold or used by producers, by kinds

(Thousand short tons and thousand dollars)

Year	Granite		Basalt and related rocks (traprock)		Limestone ¹	
	Quantity	Value	Quantity	Value	Quantity	Value
1959.....	4,343	\$5,433	1,772	\$2,728	16,137	\$24,384
1960.....	4,208	5,409	1,941	2,748	15,054	23,311
1961.....	4,867	7,233	1,880	2,225	16,669	23,989
1962.....	4,484	5,975	1,886	2,200	15,094	24,082
1963.....	3,814	6,098	2,024	2,501	16,447	22,806
	Sandstone		Otherstone ²		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1959.....	2,758	\$4,506	7,124	\$12,039	32,134	\$49,090
1960.....	3,541	5,626	8,331	12,748	33,075	49,842
1961.....	3,286	5,222	7,148	11,658	33,850	50,327
1962.....	2,390	4,038	10,313	18,427	34,776	54,722
1963.....	3,363	5,898	12,329	20,650	37,977	58,253

¹ Includes limestone and oystershell used in cement and lime as follows (in thousand short tons and thousand dollars): 1959, 13,663 tons, \$16,628; 1960, 12,605 tons, \$16,645; 1961, 12,778 tons, \$15,312; 1962, 12,799 tons, \$15,393; 1963, 13,242 tons, \$13,580.² Includes light-colored volcanics, schist, serpentine, river boulders, and such other stone as cannot properly be classed in any main group; also marble and slate.

Sulfur.—Elemental sulfur (brimstone) was recovered from sour-natural and refinery gases as a byproduct of petroleum refining in six California plants—two in Contra Costa County, three in Los Angeles County, and one in San Luis Obispo County. The processes used to recover the brimstone were combinations of the Girbotol process or the diethanolamine absorption process in conjunction with the Klaus

process or some modification thereof. Production and shipments of brimstone rose 8 and 14 percent, respectively, above the 1962 figures.

Several hundred tons of sulfur ore was mined from the Inyo County Crater Sulphur deposit by Inyo Soil Sulphur Co. and from the Lake County S Bar S mine by American Mineral Resources Development Co. The outputs were shipped for use as a soil aid. All other sulfur properties were idle throughout the year.

Talc, Soapstone, and Pyrophyllite.—Crude talc was shipped from 12 mines in San Bernardino County and from 11 mines in Inyo County (a twelfth shipped from stockpile); soapstone from two properties in Amador County and one property each in El Dorado and Los Angeles Counties; and pyrophyllite from three mines in San Diego County, two in Mono County, and one in San Bernardino County. Production and shipments to grinders rose 2 and 4 percent, respectively. Crude sales to consumers, though relatively small, increased 69 percent compared with 1962. Consumption of ground minerals declined 4 percent and of the total, 49 percent was used by the ceramic industry, 20 percent in paints, 9 percent in insecticides, and 19 percent by the rubber, cosmetic, rice polishing, textile, paper, and other industries. About 3 percent of the total was exported, all but 1 ton of which was talc.

Vermiculite.—Exfoliation plants were operated in Sacramento and Los Angeles Counties by California Zonolite Co., on crude vermiculite received from company mines in Montana. South African crude was imported by LaHabra Products, Inc. (formerly Lahabralite Co.) and exfoliated in an Orange County plant. Plant products were used for acoustical and thermal insulation, consumed as aggregate in plaster and concrete, and used as a soil conditioner. Demand for the products rose in all categories.

Water.—Thirty-one water-consuming agencies, representing 63 percent of the State's population, had contracted by yearend with the California Central Valley Water Project for the delivery of more than 85 percent of the total project yield in acre feet. The concrete core block of Oroville dam was completed and the 4-year project of transporting and placing 155 million tons of dredge tailing was begun. Construction was also started on the California aqueduct, designed to carry water through the San Joaquin Valley to southern California.

Other Nonmetals.—Shipments of phosphate rock averaging nearly 32 percent phosphorus pentoxide, purchased from Idaho and Wyoming mines by California producers of chemicals and fertilizers, were 20 percent more than in 1962. Collier Carbon & Chemical Corp. reported no action by the Bureau of Land Management on its 1962 request for return of payment on an offshore lease covering 30,000 acres of phosphoric nodule deposits. Collier contended the acreage was contaminated with unexploded Naval ordnance material.

C. K. Williams Co., Alameda County, was the only producer of finished natural and manufactured iron oxide pigments. Although most of the plant output was manufactured red, yellow, brown and black oxides, the company also used out-of-State raw materials to produce natural brown and red oxides, Venetian red, ocher, sienna and umber (burnt and raw) and Vandyke brown.

No activity was reported at a San Diego County celestite deposit, at Inyo County garnet claims, or at a San Bernardino amorphous silica property. Two operators in Riverside County collected and shipped wollastonite float for landscaping and building construction

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