

TABLE 15.—Stone sold or used by producers, by kinds

Year	Granite		Basalt and related rocks (traprock)		Limestone	
	Short tons	Value	Short tons	Value	Short tons	Value
1954	3,012,041	\$3,480,586	2,129,545	\$2,786,035	² 11,044,061	² \$21,434,189
1955	2,724,342	3,420,057	1,923,351	2,547,821	³ 12,472,285	³ 21,075,656
1956	3,899,350	5,155,292	1,966,581	2,339,318	⁴ 14,115,070	⁴ 22,118,105
1957	12,744,413	10,564,922	1,952,417	2,431,926	⁵ 14,102,264	⁵ 22,511,933
1958	3,649,390	5,347,679	1,498,912	1,738,570	⁶ 14,408,695	⁶ 22,583,791

Year	Sandstone		Other stone ¹		Total	
	Short tons	Value	Short tons	Value	Short tons	Value
1954	2,703,599	\$3,723,255	4,414,510	\$6,117,049	23,303,756	\$37,541,114
1955	2,937,537	4,886,507	4,650,806	5,234,343	24,708,321	37,164,384
1956	2,917,916	4,833,877	9,684,453	11,662,060	32,583,370	46,108,652
1957	4,222,211	6,679,968	8,329,954	11,402,340	41,351,259	53,591,089
1958	3,933,245	5,687,984	8,933,057	12,987,471	32,423,299	48,345,495

¹ Includes light-color volcanics, schist, serpentine, river boulders, and such other stone as cannot properly be classed in any main group; also marble (1954-58) and slate (1958).

² Includes 9,567,191 tons of limestone and oystershell valued at \$17,229,547 used in cement and lime.

³ Includes 10,977,552 tons of limestone and oystershell valued at \$16,431,434 used in cement and lime.

⁴ Includes 12,259,540 tons of limestone and oystershell valued at \$17,354,910 used in cement and lime.

⁵ Includes 11,860,832 tons of limestone and oystershell valued at \$16,489,192 used in cement and lime.

⁶ Includes 12,351,907 tons of limestone and oystershell valued at \$16,421,501 used in cement and lime.

Strontium Minerals.—Activity at celestite deposits was limited to development at a property near Ludlow, San Bernardino County.

Sulfur.—Byproduct industrial gases yielded a sulfur equivalent nearly 5 percent greater in quantity and approximately 8 percent higher in value than in 1957. Although the increase and a major portion of the output were derived from gases at 11 oil refineries in the State, a small part of the recovery was sulfur dioxide from stack gas at the Selby smelter, Contra Costa County, where the yield dropped slightly below 1957. Four of the oil refineries converted hydrogen sulfide to molten sulfur, while the others delivered the gas by pipeline to nearby chemical plants for manufacturing sulfuric acid or elemental sulfur. About two-thirds of the recovered sulfur came from refineries in the Los Angeles Basin.

The production rise of refinery byproduct sulfur, despite a 6-percent drop in refinery crude throughput, resulted from several factors, including: Improved sulfur-recovery efficiency through increased attention to sources of air pollution; greater utilization of high-sulfur crude oils, which constitute a large portion of the California oil reserves; and continued rise in reforming and catalytic desulfurization capacity created by the need for improved gasoline quality.

Most sulfur-ore shipments originated at the **Leviathan mine**, Alpine County. The crude ore was transported to Nevada for manufacturing sulfuric acid used in a copper-leaching operation. The total shipped was somewhat lower than in 1957. Small quantities of sulfur ore used as a soil aid were mined and shipped from the Crater deposit, Inyo County, and the Sulphur Bank mine, Lake County. Nearly four times more sulfur was shipped than in 1957.

Talc, Soapstone, and Pyrophyllite.—The total quantity of these minerals mined in 1958 increased over 1957, however, the value de-

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r flagging

1958

Value
\$628,481
² 443,630
(³)
30,911
1,103,022
6,041,468
(⁴)
12,871,300
115,327
(⁵)
41,426
⁷ 28,172,952
47,242,473
48,345,495

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filter beds, ter-
\$14,685,783 and
\$14,949,555 and

nd ns	Value (thousands)
12	(³)
69	\$427
31	3,996
26	7,829
24	1,675
42	736
25	3,042
36	125
11	4,469
10	965
91	136
50	223
88	233
67	2,106
20	39
342	524
16	26
361	8,376
423	48,345

oma, Stanislaus,
tial data.

REVIEW BY COUNTIES

Alameda.—Sand and gravel production, chiefly from pits in the Pleasanton, Niles, and Fremont areas, increased 1 million tons above 1957; it was used principally to meet aggregate requirements for the Nimitz Freeway in southern Alameda County. Smaller tonnages were produced for building construction and railroad ballast. Quarries in the Oakland, San Leandro, Niles, and Hayward areas yielded stone crushed for macadam and fill. A basalt quarry near Oakland was the source of stone used for riprap and railroad ballast. Miscellaneous clay was dug from pits near Niles and used in manufacturing building brick and other heavy clay products. Fire clay was mined underground near Livermore for foundry use.

Crude salt was recovered from sea water by solar evaporation from more than 20,000 acres of ponds at three plants in the county. The State's major producer refined the crude salt at Newark and sold the crude to a refining plant on adjacent property. Nearly 50 percent of the salt sold was used in making chlorine. A former producer at Mount Eden closed his plant and reported no production for 1958. Salt-work bitterns from the Newark plants were sold to a nearby chemical plant and processed, yielding magnesia, synthetic gypsum, and byproduct ethylene dibromide.

Open-hearth steel furnaces were in production at Emeryville and Niles, using iron and steel scrap as a source of metal. At the latter site a used blast furnace was being installed and was expected to be in operation in 1959. An Emeryville plant was California's only manufacturer of iron oxide pigments. Although most of the product was synthetic iron oxide (produced from sulfuric acid, caustic soda, and steel scrap) some natural oxide pigment was made by calcining iron ore mined in Oregon. Two grinding plants in Emeryville and one in Berkeley ground crude barite, and the latter also processed, on a custom basis, clays, soapstones, and other nonmetallic minerals received from mines outside the county.

Alpine.—The Leviathan mine near Markleeville was the principal California sulfur-ore mine. The crude ore was shipped to the producer's copper-leaching plant in Nevada and used in making sulfuric acid. Shipments were lower than in 1957 due to curtailed copper output.

Crews and contractors for the California Division of Highways dug 28,000 tons of sand and gravel and quarried and crushed a few hundred tons of granite, used in highway construction and maintenance.

Amador.—Much of the county's mineral production value was derived from the Ione area. Sand produced in the area was used in the manufacturing of glass and firebrick, and clay deposits yielded fire clay used in cement and in manufacturing refractories and heavy clay products. One company prepared and sold clay for consumption in pottery, stoneware, and tile and as a filler in linoleum and paint. County, State, and Federal Government-and-contractor paving projects utilized sand and gravel from pits in the same area, and crushed stone obtained near Pioneer. A stone quarry near

Lancha Plana w granules.

One drift mine washing operation. A few ounces of a cleanup operation treated tailings at

The State's on stantially the sa processed at Buer

Butte.—The pro dropped 12 perce tant mineral pro from fifth in 19 5-percent drop i Durham, and Ch

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TABLE 24.—

County	1
Alameda.....	2 \$10
Alpine.....	
Amador.....	
Butte.....	
Calaveras.....	1
Colusa.....	
Contra Costa.....	2
Del Norte.....	
El Dorado.....	
Fresno.....	12
Glenn.....	
Humboldt.....	
Imperial.....	
Inyo.....	
Kern.....	23
Kings.....	
Lake.....	
Lassen.....	
Los Angeles.....	21
Madera.....	
Marin.....	
Mariposa.....	
Mendocino.....	

See footnotes at