

SAND AND GRAVEL (INDUSTRIAL) STATISTICS

By Kenneth E. Porter and Thomas P. Dolley

[All values in metric tons (t) unless otherwise noted]

Last modification: January 13, 2004

Year	Primary production	Imports	Exports	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1902	1,220,000			1,220,000	0.90	17.00	
1903	1,170,000			1,170,000	1.07	19.00	
1904	4,410,000			4,410,000	0.74	13.00	
1905	4,670,000			4,670,000	0.81	15.00	
1906	5,430,000			5,430,000	0.73	13.00	
1907	5,890,000			5,890,000	0.77	13.00	
1908	3,730,000			3,730,000	0.80	15.00	
1909	5,020,000			5,020,000	0.78	14.00	
1910	6,030,000			6,030,000	0.78	14.00	
1911	6,950,000			6,950,000	0.71	12.00	
1912	8,190,000			8,190,000	0.68	11.00	
1913	7,120,000			7,120,000	0.76	12.60	
1914	6,380,000			6,380,000	0.71	11.60	
1915	7,740,000			7,740,000	0.63	10.10	
1916	9,010,000			9,010,000	0.78	11.70	
1917	8,940,000			8,940,000	1.09	13.90	
1918	9,110,000			9,110,000	1.40	15.10	
1919	7,700,000			7,700,000	1.40	13.10	
1920	9,680,000			9,680,000	1.71	13.90	
1921	5,180,000			5,180,000	1.50	13.70	
1922	7,970,000	1,170	162,000	7,810,000	1.36	13.20	
1923	10,400,000	2,090	250,000	10,200,000	1.44	13.70	
1924	9,680,000	5,880	142,000	9,540,000	1.36	13.00	
1925	10,800,000	3,800	193,000	10,600,000	1.28	11.90	
1926	11,200,000	8,000	192,000	11,000,000	1.23	11.30	
1927	10,100,000	9,680	191,000	9,940,000	1.20	11.20	
1928	10,400,000	39,100	334,000	10,100,000	1.22	11.70	
1929	11,700,000	0	221,000	11,500,000	1.24	11.80	
1930	7,630,000	22,400	147,000	7,510,000	1.31	12.80	
1931	5,600,000	31,800	98,800	5,530,000	1.29	13.80	
1932	3,720,000	24,100	43,600	3,700,000	1.28	15.20	
1933	4,740,000	23,800	37,400	4,730,000	1.30	16.30	
1934	5,480,000	22,200	15,200	5,490,000	1.39	16.90	
1935	6,840,000	40,200	17,000	6,860,000	1.33	15.80	
1936	8,500,000	48,000	22,600	8,530,000	1.27	14.90	
1937	9,960,000	46,300	30,500	9,980,000	1.30	14.80	
1938	5,910,000	30,700	16,100	5,920,000	1.37	15.80	
1939	7,870,000	21,500	12,600	7,880,000	1.33	15.60	
1940	9,660,000	3,930		9,660,000	1.31	15.20	
1941	13,000,000	0		13,000,000	1.38	15.30	
1942	14,300,000	0		14,300,000	1.49	14.90	
1943	15,600,000	16.0		15,600,000	1.52	14.30	
1944	16,000,000	14.0		16,000,000	1.51	14.00	
1945	14,200,000	0		14,200,000	1.52	13.80	
1946	14,500,000	4,540		14,500,000	1.59	13.30	
1947	16,300,000	7,080		16,300,000	1.72	12.50	
1948	15,300,000	15,300		15,300,000	1.90	12.90	
1949	12,600,000	10,400		12,600,000	2.03	13.90	
1950	15,600,000	8,340		15,600,000	2.06	13.90	
1951	17,200,000	5,680		17,200,000	2.21	13.80	
1952	15,700,000	3,640		15,700,000	2.32	14.30	
1953	16,500,000	5,160		16,500,000	2.44	14.90	

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1954	15,100,000	9,370		15,100,000	2.84	17.20	
1955	18,000,000	154		18,000,000	2.74	16.70	
1956	19,200,000	434		19,200,000	2.91	17.40	
1957	17,400,000	620		17,400,000	3.06	17.70	
1958	14,100,000	5,910		14,100,000	3.26	18.40	
1959	16,600,000	92.0		16,600,000	3.49	19.50	
1960	16,600,000	9,770		16,600,000	3.55	19.60	
1961	16,400,000	2.00		16,400,000	3.60	19.70	
1962	18,200,000	28,500		18,300,000	3.82	20.60	
1963	19,100,000	20,600		19,200,000	3.67	19.50	
1964	21,100,000	36,600		21,200,000	3.58	18.80	
1965	23,000,000	9,820		23,000,000	3.54	18.30	
1966	23,900,000	16,300		23,900,000	3.62	18.20	
1967	23,000,000	39,900		23,000,000	3.74	18.20	
1968	24,500,000	22,700		24,500,000	4.13	19.40	
1969	26,300,000	39,000		26,400,000	4.13	18.35	
1970	26,400,000	58,100		26,500,000	3.83	16.10	
1971	23,700,000	43,500	798,000	23,000,000	3.77	15.15	
1972	26,800,000	44,500	951,000	25,900,000	4.12	16.07	
1973	26,300,000	43,500	767,000	25,600,000	4.04	14.83	
1974	26,400,000	0	1,020,000	25,400,000	5.08	16.80	
1975	24,800,000	40,700	1,970,000	22,800,000	6.00	18.18	
1976	27,100,000	55,000	2,300,000	24,900,000	6.17	17.68	
1977	28,400,000	0	2,330,000	26,200,000	8.06	21.69	
1978	29,800,000	41,700	2,570,000	27,300,000	8.29	20.74	
1979	30,400,000	64,400	1,080,000	29,400,000	8.77	19.70	
1980	26,900,000	35,400	1,070,000	25,800,000	10.15	20.09	
1981	27,200,000	3,630	1,030,000	26,200,000	11.65	20.89	
1982	24,900,000	81,600	742,000	24,200,000	12.40	20.94	
1983	24,100,000	52,600	950,000	23,300,000	13.36	22.71	
1984	26,700,000	23,600	1,080,000	25,600,000	13.69	21.48	
1985	26,700,000	73,500	786,000	26,000,000	13.58	20.58	115,000,000
1986	24,900,000	79,800	770,000	24,200,000	14.06	20.91	113,000,000
1987	25,400,000	94,300	688,000	24,800,000	13.86	19.88	113,000,000
1988	25,800,000	39,000	962,000	24,900,000	14.41	19.86	120,000,000
1989	26,500,000	31,800	1,870,000	24,700,000	13.55	17.81	118,000,000
1990	25,800,000	66,200	1,050,000	24,800,000	14.32	17.86	110,000,000
1991	23,200,000	82,600	1,490,000	21,800,000	13.07	15.64	111,000,000
1992	25,200,000	164,000	1,340,000	24,000,000	14.03	16.30	112,000,000
1993	26,200,000	44,000	1,750,000	24,500,000	14.12	15.92	104,000,000
1994	27,300,000	24,000	1,880,000	25,400,000	13.75	15.12	117,000,000
1995	28,200,000	59,000	1,870,000	26,400,000	13.90	14.87	121,000,000
1996	27,800,000	7,000	1,430,000	26,400,000	13.32	13.84	106,000,000
1997	28,500,000	39,000	980,000	27,600,000	12.38	12.58	94,600,000
1998	28,200,000	44,000	2,400,000	25,800,000	14.23	14.23	93,900,000
1999	28,900,000	211,000	1,670,000	27,400,000	14.96	14.64	95,700,000
2000	28,400,000	247,000	1,660,000	27,400,000	14.41	13.64	96,000,000
2001	27,900,000	172,000	1,540,000	26,500,000	15.98	14.71	96,400,000
2002	27,300,000	250,000	1,410,000	26,100,000	16.70	15.13	94,900,000

Sand and Gravel (Industrial) Worksheet Notes

Data Sources

The sources of data for the industrial sand and gravel worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR), and Mineral Commodity Summaries (MCS) and its predecessor, Commodity Data Summaries (CDS). The years of publication and corresponding years of data coverage are listed in the references section below. Blank cells in the worksheet indicate that data were not available.

Primary Production

U.S. production data collection and reporting did not start for industrial sand until 1902. Before 1902, sand was included with stone and included only silica sand for glass making. Construction and industrial sand and gravel production were reported together in the salient statistical table in the MR and the MYB through 1958, and were split between “commercial” and “government” (State, county, municipalities, and Federal). Categories were split between construction and industrial according to the following guidelines: Construction sand included building, paving, railroad ballast, and other (excluding ground sand). The reporting of gravel production prior to 1959 did not indicate any industrial applications, therefore the assumption is made that all gravel production data were for construction applications. After 1958, some gravel was used for industrial applications, such as filtration, ferrosilicon, and non-metallic flux for sulfur production. Industrial sand includes glass, molding, grinding and polishing (also blast sand), fire or furnace, engine, and filter (ground sand is included in the “other” category and is separated out for inclusion with industrial). Construction and industrial sand and gravel statistics were reported separately in a combined chapter starting with the 1959 MYB and in separate chapters starting with the 1988 MYB.

Imports

U.S. import data for industrial sand and gravel were reported in tables starting with the 1922 MR and continues to be reported in the MYB and the MCS.

Exports

Export data for combined sand and gravel (construction) and sand and gravel (industrial) were reported in the foreign trade section text starting with the 1922 MR and continuing in the MYB through 1939. Construction and industrial sand and gravel export data were split 50:50 for the years 1922–39 based on the average for the years 1971–2002 when more complete export data were available. Sand and gravel (industrial) export data were not available for the years 1940–62. Export data for the years 1963–2002 are from the CDS, the MCS, and the MYB.

Apparent Consumption

Apparent consumption is defined as follows:

$$\text{APPARENT CONSUMPTION} = \text{PRIMARY PRODUCTION} + \text{IMPORTS} - \text{EXPORTS}.$$

Export data are not available for the years 1940–62 and are not included for the purpose of estimating apparent consumption.

Unit Value (\$/t)

Unit values were estimated by summing the values for different types of sand and gravel (industrial) production plus import values minus export values and dividing by total quantity of primary production plus imports minus exports. Data for quantities and values from which unit values were estimated are from the MR and the MYB.

Unit Value (98\$/t)

The Consumer Price Index conversion factor, with 1998 as the base year, is used to adjust unit value in current U.S. dollars to the unit value in constant 1998 U.S. dollars.

World Production

World production data reporting of industrial sand and gravel started in 1969 in the MCS. Data prior to 1969 were not available for other countries and therefore were not reported.

References

- U.S. Bureau of Mines, 1927–34, Mineral Resources of the United States, 1924–31.
- U.S. Bureau of Mines, 1933–96, Minerals Yearbook, 1932–94.
- U.S. Bureau of Mines, 1962–77, Commodity Data Summaries, 1962–77.
- U.S. Bureau of Mines, 1978–95, Mineral Commodity Summaries, 1978–95.
- U.S. Geological Survey, 1901–27, Mineral Resources of the United States, 1900–23.
- U.S. Geological Survey, 1997–2003, Mineral Commodity Summaries, 1997–2003.

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