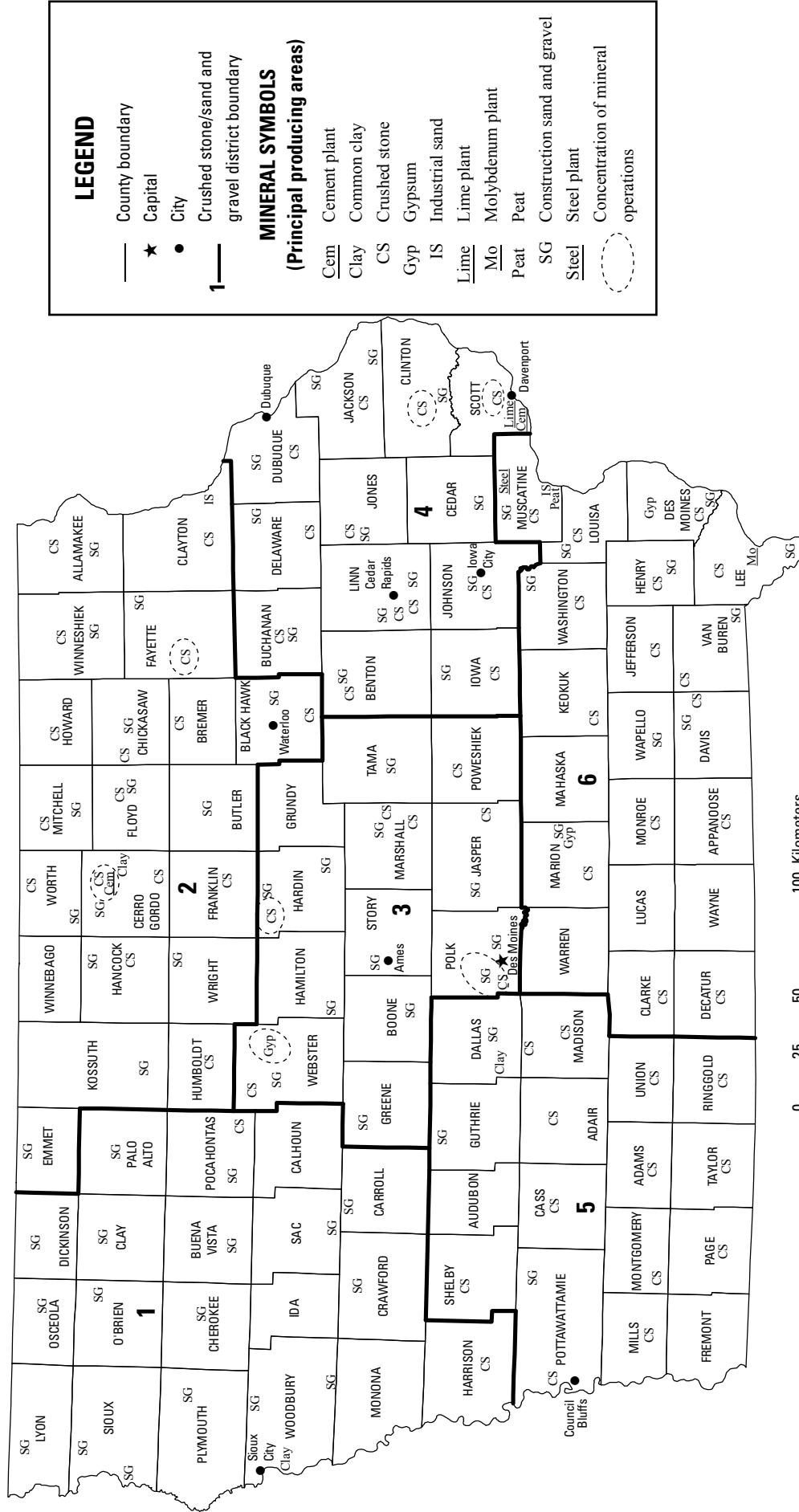




2012–2013 Minerals Yearbook

IOWA

IOWA



LEGEND

- County boundary
- ★ Capital
- City
- Crushed stone/sand and gravel district boundary

MINERAL SYMBOLS (Principal producing areas)

- Cem Cement plant
- Clay Common clay
- CS Crushed stone
- Gyp Gypsum
- IS Industrial sand
- Lime Lime plant
- Mo Molybdenum plant
- Peat Peat
- SG Construction sand and gravel
- Steel Steel plant
- Concentration of mineral operations

THE MINERAL INDUSTRY OF IOWA

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

In 2013, the value of nonfuel mineral production¹ in the State of Iowa increased to \$700 million, 1.0% of the U.S. total nonfuel mineral production, ranking it 31st in the Nation. In 2012, the corresponding value was \$664 million, 0.9% of the U.S. total nonfuel mineral production, ranking it 33d among the 50 States. In 2013, on a per capita basis, nonfuel mineral production in Iowa had a value of \$226 compared with the national average of \$238. In 2012, the per capita value was \$216 compared with the national average of \$241.

The value of nonfuel mineral production in Iowa for the years 2006 through 2013 was as follows (in millions of dollars): \$705 (2006), \$681 (2007), \$680 (2008), \$635 (2009), \$585 (2010), \$652 (2011), \$664 (2012), and \$700 (2013).

In 2013, there were 1,743 employees in nonfuel mineral mines in Iowa and 627 in nonfuel mineral mills and preparation plants. In 2012, the corresponding numbers were 1,818 in nonfuel mineral mines and 543 in mills and preparation plants (U.S. Mine Safety and Health Administration, 2013, p. 9; 2014, p. 9). In 2013, the average annual wage in Iowa for all mining was \$46,958 compared with \$40,489 for all industries. In 2012, the corresponding figures were \$45,695 and \$39,761, respectively (National Mining Association, unpub. data, February 4, 2016).

In 2012 and 2013, Iowa produced common clays, construction and industrial sand and gravel, crushed stone, gemstones, gypsum, lime, peat, and portland cement (table 1).

Commodity Review

There were more than 1,100 registered mineral sites in Iowa, used by approximately 250 operators in 26 counties.

¹The 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 USGS mineral production data published in this chapter are those available as of February 2016. Data in this report are rounded to three significant digits and percentages are calculated from unrounded data. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at <http://minerals.usgs.gov/minerals>.

Industrial Minerals

Aggregates (crushed stone and construction sand and gravel) accounted for 53% of the total value of nonfuel mineral production in Iowa in 2013, and 59% in 2012. In 2013, there were 170 active crushed stone operations, 207 quarries, 1 dredging operation, and 167 processing plants. In 2012, the corresponding figures were 163 operations, 197 quarries, 1 dredging operation, and 160 processing plants. In 2013, there were 152 active construction sand and gravel operations, and in 2012, there were 154 sand and gravel operations.

Dimension stone (mainly limestone and “dolostone”) was produced in Dubuque, Jackson, and Jones Counties. Anamosa limestone, distinguished by its uniform texture, color, banding, durability and distinct planar and undulating varve-like laminations, is mined near Stone City, just west of Anamosa. Gypsum was produced from surface mines in Webster County and from an underground mine in Des Moines County. Iowa consistently ranks as one of the Nation’s top five crude gypsum producers, with the majority of production mined from the Fort Dodge gypsum beds in Webster County. Lime, both quicklime and hydrated, was manufactured in Scott County. St. Peter sandstone was the source for high-purity silica sand in Clayton County and northeastern Iowa.

Iowa is also known for geodes and for calcite and barite crystals in the sedimentary rocks exposed throughout the State.

References Cited

- U.S. Mine Safety and Health Administration, [2013], Mine injury and worktime, quarterly, January–December 2012: U.S. Mine Safety and Health Administration, Final, closeout edition, 33 p. (Accessed February 4, 2016, at http://arlweb.msha.gov/Stats/Part50/WQ/MasterFiles/MIWQ%20Master_20125.pdf.)
- U.S. Mine Safety and Health Administration, [2014], Mine injury and worktime, quarterly, January–December 2013: U.S. Mine Safety and Health Administration, Final, closeout edition, 34 p. (Accessed February 4, 2016, at http://arlweb.msha.gov/Stats/Part50/WQ/MasterFiles/MIWQ%20Master_20135.pdf.)

TABLE 1
NONFUEL MINERAL PRODUCTION IN IOWA^{1,2}

(Thousand metric tons and thousand dollars)

Mineral	2011		2012		2013	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	182	862	W	W	W	W
Gemstones, natural	NA	3	NA	3	NA	3
Peat	W	5	W	W	W	W
Sand and gravel, construction	15,200 ^r	102,000 ^r	13,600	89,200	12,900	85,700
Stone, crushed	31,700 ^r	309,000 ^r	32,400	302,000	30,700	285,000
Combined values of cement, gypsum (crude), lime, sand and gravel (industrial), and values indicated by symbol W	XX	240,000	XX	272,000	XX	329,000
Total	XX	652,000 ^r	XX	664,000	XX	700,000

^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Combined values" data. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
IOWA: CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY TYPE¹

Type	2012				2013			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone ²	196	32,200	\$301,000	\$9.34	206	30,500	\$283,000	\$9.30
Dolomite	1	155	1,420	9.18	1	203	1,760	8.66
Miscellaneous stone	--	--	--	--	--	27	306	11.25
Total or average	XX	32,400	302,000	9.34	XX	30,700	285,000	9.30

XX Not applicable. -- Zero.

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

²Includes limestone-dolomite reported with no distinction between the two kinds of stone.

TABLE 3
IOWA: CRUSHED STONE SOLD OR USED BY PRODUCERS, BY USE¹

Use	2012			2013		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:						
Coarse aggregate (+1½ inch):						
Macadam	228	\$2,270	\$9.95	45	\$532	\$11.81
Riprap and jetty stone	160	2,140	13.36	90	1,250	13.88
Filter stone	205	2,560	12.50	79	574	7.22
Unspecified coarse aggregate	141	1,110	7.85	162	1,930	11.91
Coarse aggregate, graded:						
Concrete aggregate, coarse	1,800	19,700	10.93	375	4,490	11.99
Bituminous aggregate, coarse	145	1,640	11.31	114	1,200	10.54
Bituminous surface-treatment aggregate	196	1,940	9.91	80	968	12.04
Railroad ballast	W	W	W	W	W	W
Unspecified graded coarse aggregate	W	W	W	--	--	--
Fine aggregate (-¾ inch):						
Stone sand, concrete	143	1,490	10.41	W	W	W
Stone sand, bituminous mix or seal	158	848	5.36	93	1,240	13.33
Screening, undesignated	293	1,710	5.82	152	644	4.23
Unspecified fine aggregate	74	197	2.66	W	W	W
Coarse and fine aggregates:						
Graded road base or subbase	1,970	19,200	9.72	1,120	9,520	8.52
Unpaved road surface	3,200	27,700	8.66	W	W	W
Terrazzo and exposed aggregate	--	--	--	1	3	8.65
Crusher run or fill or waste	284	1,200	4.23	29	201	6.82
Roofing granules	W	W	W	--	--	--
Unspecified coarse and fine aggregates	599	5,920	9.88	756	8,670	11.46
Unspecified and other construction materials	198	1,960	9.87	158	1,710	10.83
Agricultural:						
Agricultural Limestone	966	5,430	5.62	319	2,130	6.66
Chemical and metallurgical:						
Cement manufacture	W	W	W	--	--	--
Lime manufacture	W	W	W	--	--	--
Flux stone	W	W	W	--	--	--
Glass manufacture	W	W	W	--	--	--
Sulfur oxide removal	W	W	W	--	--	--
Special:						
Asphalt fillers or extenders	W	W	W	--	--	--
Other miscellaneous uses and specified uses not listed	81	1,890	23.31	32	282	8.71
Unspecified:²						
Reported	10,200	103,000	10.08	13,200	125,000	9.51
Estimated	10,300	90,300	8.78	12,600	111,000	8.80
Total or average	32,400	302,000	9.34	30,700	285,000	9.30

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

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

²Reported and estimated production without a breakdown by end use.

TABLE 4
IOWA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2012, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ²	--	--	W	W	W	W
Coarse aggregate, graded ³	--	--	W	W	--	--
Fine aggregate (-¾ inch) ⁴	--	--	315	2,440	W	W
Coarse and fine aggregates ⁵	--	--	2,160	16,300	W	W
Other construction materials	--	--	W	W	--	--
Agricultural ⁶	--	--	426	2,280	W	W
Chemical and metallurgical ⁷	--	--	--	--	--	--
Special ⁸	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed ⁹	--	--	W	W	--	--
Unspecified: ¹⁰						
Reported	404	4,110	2,420	24,700	4,930	50,400
Estimated	6	53	1,860	12,300	437	5,950
Total	410	4,160	8,430	70,900	5,540	57,600
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ²	W	W	W	W	188	2,060
Coarse aggregate, graded ³	982	11,000	W	W	250	2,320
Fine aggregate (-¾ inch) ⁴	218	879	--	--	50	427
Coarse and fine aggregates ⁵	1,760	15,900	W	W	1,660	16,800
Other construction materials	5	35	--	--	--	--
Agricultural ⁶	178	905	W	W	244	1,500
Chemical and metallurgical ⁷	W	W	--	--	--	--
Special ⁸	W	W	--	--	--	--
Other miscellaneous uses and specified uses not listed ⁹	W	W	--	--	--	--
Unspecified: ¹⁰						
Reported	404	4,110	808	8,220	989	9,440
Estimated	4,270	39,200	2,200	20,200	1,520	12,600
Total	9,150	86,500	3,180	30,500	4,900	45,200
Use	Unspecified districts					
	Quantity	Value				
Construction:						
Coarse aggregate (+1½ inch) ²	3	40				
Coarse aggregate, graded ³	55	604				
Fine aggregate (-¾ inch) ⁴	73	421				
Coarse and fine aggregates ⁵	395	4,360				
Other construction materials	--	--				
Agricultural ⁶	55	299				
Chemical and metallurgical ⁷	--	--				
Special ⁸	--	--				
Other miscellaneous uses and specified uses not listed ⁹	--	--				
Unspecified: ¹⁰						
Reported	194	1,780				
Estimated	--	--				
Total	775	7,500				

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

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

²Includes macadam, riprap and jetty stone, filter stone, and unspecified coarse aggregate.

³Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and unspecified graded coarse aggregate.

⁴Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and unspecified fine aggregate.

⁵Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, and unspecified coarse and fine aggregates.

⁶Includes agricultural limestone.

⁷Includes cement manufacture, lime manufacture, flux stone, glass manufacture, and sulfur oxide removal.

⁸Includes asphalt fillers or extenders and roofing granules.

⁹Includes drain fields, waste material, lightweight aggregate (slate), pipe bedding, refractory stone (including ganister), and other miscellaneous uses.

¹⁰Reported and estimated production without a breakdown by end use.

TABLE 5
IOWA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2013, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ²	--	--	99	995	W	W
Coarse aggregate, graded ³	23	246	W	W	--	--
Fine aggregate (-¾ inch) ⁴	5	60	W	W	--	--
Coarse and fine aggregates ⁵	--	--	1,110	9,530	W	W
Other construction materials	--	--	W	W	--	--
Agricultural ⁶	--	--	68	468	W	W
Chemical and metallurgical ⁷	--	--	--	--	--	--
Special ⁸	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed ⁹	--	--	W	W	--	--
Unspecified:¹⁰						
Reported	382	4,000	W	W	4,670	48,800
Estimated	6	50	2,720	19,200	455	6,190
Total	415	4,360	8,070	67,300	5,260	56,300
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ²	W	W	--	--	258	3,020
Coarse aggregate, graded ³	W	W	--	--	W	W
Fine aggregate (-¾ inch) ⁴	W	W	--	--	W	W
Coarse and fine aggregates ⁵	W	W	--	--	1,480	15,900
Other construction materials	W	W	--	--	--	--
Agricultural ⁶	W	W	--	--	144	1,010
Chemical and metallurgical ⁷	--	--	--	--	--	--
Special ⁸	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed ⁹	W	W	--	--	--	--
Unspecified:¹⁰						
Reported	2,050	18,300	765	8,010	1,970	16,700
Estimated	6,150	56,600	2,270	20,200	992	8,590
Total	8,410	76,800	3,040	28,200	4,930	46,600
Use	Unspecified districts					
	Quantity	Value				
Construction:						
Coarse aggregate (+1½ inch) ²	2	19				
Coarse aggregate, graded ³	32	334				
Fine aggregate (-¾ inch) ⁴	127	1,050				
Coarse and fine aggregates ⁵	382	4,110				
Other construction materials	--	--				
Agricultural ⁶	37	246				
Chemical and metallurgical ⁷	--	--				
Special ⁸	--	--				
Other miscellaneous uses and specified uses not listed ⁹	--	--				
Unspecified:¹⁰						
Reported	--	--				
Estimated	--	--				
Total	580	5,750				

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

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

²Includes macadam, riprap and jetty stone, filter stone, and unspecified coarse aggregate.

³Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and unspecified graded coarse aggregate.

⁴Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesigned), and unspecified fine aggregate.

⁵Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, and unspecified coarse and fine aggregates.

⁶Includes agricultural limestone.

⁷Includes cement manufacture, lime manufacture, flux stone, glass manufacture, and sulfur oxide removal.

⁸Includes asphalt fillers or extenders and roofing granules.

⁹Includes drain fields, waste material, lightweight aggregate (slate), pipe bedding, refractory stone (including ganister), and other miscellaneous uses.

¹⁰Reported and estimated production without a breakdown by end use.

TABLE 6
IOWA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2012,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	2,760	\$17,700	\$6.41
Concrete products (blocks, bricks, pipe, decorative, and so forth) ²	105	437	4.16
Asphaltic concrete aggregates and other bituminous mixtures	245	1,730	7.06
Road base and coverings	1,510	8,900	5.89
Fill	480	2,170	4.52
Snow and ice control	28	273	9.75
Other miscellaneous uses ³	45	583	12.96
Unspecified: ⁴			
Reported	5,150	35,800	6.95
Estimated	3,310	21,600	6.53
Total or average	13,600	89,200	6.56

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

²Includes plaster and gunite sands.

³Includes roofing granules.

⁴Reported and estimated production without a breakdown by end use.

TABLE 7
IOWA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2013,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	1,940	\$12,700	\$6.55
Plaster and gunite sands ²	38	332	8.74
Asphaltic concrete aggregates and other bituminous mixtures	115	669	5.82
Road base and coverings	1,250	6,130	4.91
Fill	340	1,480	4.36
Snow and ice control	31	434	14.00
Other miscellaneous uses ³	44	554	12.59
Unspecified: ⁴			
Reported	5,210	36,700	7.05
Estimated	3,970	26,700	6.74
Total or average	12,900	85,700	6.63

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

²Includes concrete products (blocks, bricks, pipe, decorative, and so forth.).

³Includes roofing granules.

⁴Reported and estimated production without a breakdown by end use.

TABLE 8
IOWA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2012, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate (including concrete sand)	W	W	W	W	W	W
Concrete products (blocks, bricks, pipe, decorative, and so forth) ²	W	W	W	W	W	W
Asphaltic concrete aggregates and road base materials	W	W	W	W	W	W
Fill	172	751	98	450	85	395
Other miscellaneous uses ³	6	45	51	583	9	86
Unspecified: ⁴						
Reported	902	5,890	131	890	3,070	21,900
Estimated	527	3,440	604	3,950	987	6,450
Total	3,970	23,900	1,670	11,000	4,480	31,100
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate (including concrete sand)	W	W	(5)	(5)	W	W
Concrete products (blocks, bricks, pipe, decorative, and so forth) ²	W	W	--	--	W	W
Asphaltic concrete aggregates road base materials	W	W	(5)	(5)	W	W
Fill	52	247	--	--	73	326
Other miscellaneous uses ³	3	105	--	--	4	38
Unspecified: ⁴						
Reported	125	1,010	103	653	824	5,470
Estimated	424	2,770	118	771	647	4,230
Total	1,050	7,230	287	1,840	2,130	13,900
Use	Unspecified districts					
	Quantity	Value				
Concrete aggregate (including concrete sand)	--	--				
Concrete products (blocks, bricks, pipe, decorative, and so forth) ²	--	--				
Asphaltic concrete aggregates and road base materials	52	347				
Fill	--	--				
Other miscellaneous uses ³	--	--				
Unspecified: ⁴						
Reported	--	--				
Estimated	--	--				
Total	52	347				

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

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

²Includes plaster and gunite sands.

³Includes roofing granules.

⁴Reported and estimated production without a breakdown by end use.

⁵Withheld to avoid disclosing company proprietary data; included in "Total."

TABLE 9
IOWA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2013, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate (including concrete sand)	W	W	W	W	W	W
Plaster and gunitite sands ²	W	W	W	W	W	W
Asphaltic concrete aggregates and road base materials	W	W	W	W	W	W
Fill	115	457	53	230	76	350
Snow and ice control	6	47	7	100	13	121
Other miscellaneous uses ³	1	5	43	549	--	--
Unspecified: ⁴						
Reported	781	5,580	475	3,640	2,770	19,600
Estimated	1,710	11,600	758	5,270	197	1,260
Total	3,950	24,600	2,110	14,300	3,480	23,900
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate (including concrete sand)	W	W	(5)	100	W	W
Plaster and gunitite sands ²	W	W	--	--	W	W
Asphaltic concrete aggregates road base materials	W	W	(5)	89	W	W
Fill	66	283	--	--	30	163
Snow and ice control	4	154	--	--	1	11
Other miscellaneous uses ³	--	--	--	--	--	--
Unspecified: ⁴						
Reported	114	921	103	655	962	6,330
Estimated	421	2,800	118	749	757	5,070
Total	1,020	7,550	263	1,640	2,070	13,400
Use	Unspecified districts					
	Quantity	Value				
Concrete aggregate (including concrete sand)	--	--				
Plaster and gunitite sands ²	--	--				
Asphaltic concrete aggregates and road base materials	41	274				
Fill	--	--				
Snow and ice control	--	--				
Other miscellaneous uses ³	--	--				
Unspecified: ⁴						
Reported	--	--				
Estimated	--	--				
Total	41	274				

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

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

²Includes concrete products (blocks, bricks, pipe, decorative, and so forth).

³Includes roofing granules.

⁴Reported and estimated production without a breakdown by end use.

⁵Withheld to avoid disclosing company proprietary data; included in "Total."