



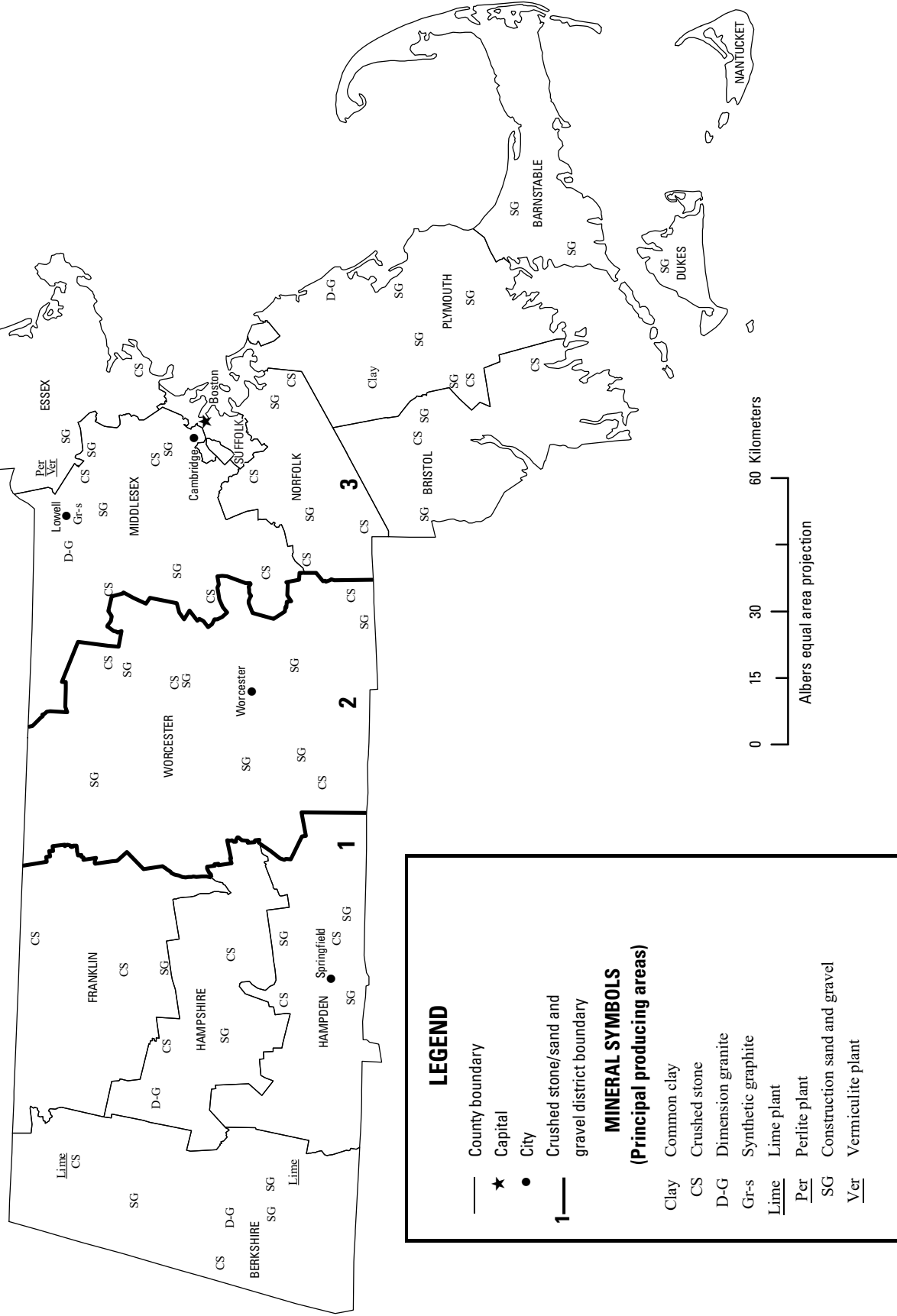
# 2010–2011 Minerals Yearbook

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## MASSACHUSETTS

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# MASSACHUSETTS



# THE MINERAL INDUSTRY OF MASSACHUSETTS

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

In 2011, nonfuel raw mineral production<sup>1</sup> in Massachusetts was valued at \$225 million based upon annual U.S. Geological Survey (USGS) data. This was a \$7.4 million (3.2%) decrease from the State's total nonfuel mineral production value of \$232 million in 2010, which followed an \$11 million (5.1%) increase from \$221 million in 2009 (annual totals exclude proprietary company data; actual totals are higher). The State remained 41st in rank among the 50 States in total nonfuel mineral production value in both 2011 and 2010 and accounted for less than half of one percent of the total U.S. value. On a per capita basis, Massachusetts ranked 48th in the Nation in nonfuel mineral production in 2011 with a value of \$34, well below the national average of \$240. The leading nonfuel mineral commodities in 2011 and 2010 were, in descending order of production value, crushed stone (51% of both the 2011 and 2010 total publishable values), construction sand and gravel (approximately 40% in each year), and dimension stone (approximately 8% in each year). The remainder of the total comprises lime, common clay, and gemstones.

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<sup>1</sup>The 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 May 2013. 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>.

After 2 consecutive years of decreasing production and production value, construction sand and gravel and dimension stone increased in both quantity and production value in 2010. The greatest proportional increase in 2010 took place in dimension stone production; the quantity increased 66% from 44,000 metric tons (t) in 2009 to 73,000 t in 2010, and the production value rose 254% from \$6.1 million to \$21.7 million. In 2010, the production value of crushed stone, however, decreased for a third straight year. In 2011, the quantity of construction sand and gravel produced fell while the value increased, and crushed stone and dimension stone saw increases in quantity but declines in value. Overall, the production value of crushed stone decreased by \$14 million (11%) in 2011 compared to 2009, construction sand and gravel increased by \$7.9 million (9.2%), and dimension stone increased by \$10 million (165%). The quantities and production values of lime, common clay, and gemstones (gemstones by value) in 2011 were very similar to those in 2009.

Massachusetts rose in rank from ninth in 2009 to seventh in both 2011 and 2010 among the 36 dimension-stone-producing States. The State had ranked fourth in the Nation in 2007, producing 98,000 tons. Additionally, one company in Essex County produced expanded perlite and exfoliated vermiculite products for horticultural, commercial, and industrial applications from source materials obtained from outside of the State.

TABLE 1  
NONFUEL MINERAL PRODUCTION IN MASSACHUSETTS<sup>1,2</sup>  
(Thousand metric tons and thousand dollars)

Mineral	2009			2010			2011		
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	
Clays, common	W	W	17	W	17	W	17	W	
Gemstones, natural	NA	I	NA	I	NA	I	NA	I	
Lime	W	W	W	W	W	W	W	W	
Sand and gravel, construction	9,460	85,600	9,710	91,400	9,230	93,500			
Stone:									
Crushed	11,200 <sup>r</sup>	129,000 <sup>r</sup>	10,400	119,000	10,600	115,000			
Dimension	44	6,130	73	21,700	83	16,200			
Total	XX	221,000 <sup>r</sup>	XX	232,000	XX	225,000			

<sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; excluded from "Total." XX Not applicable.  
<sup>1</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).  
<sup>2</sup>Data are rounded to three significant digits; may not add to totals shown.

TABLE 2  
MASSACHUSETTS: CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY TYPE<sup>1</sup>

Type	2009			2010			2011		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	
Limestone <sup>2</sup>	4	1,720 <sup>r</sup>	\$30,000 <sup>r</sup>	\$17.44	4	792	\$15,900	\$20.11	
Granite	11	3,240	34,000	10.49	13	3,490	37,800	10.84	
Traprock	17	4,960 <sup>r</sup>	51,600 <sup>r</sup>	10.40	16	4,660	49,400	10.62	
Miscellaneous stone	13 <sup>r</sup>	1,300 <sup>r</sup>	14,200 <sup>r</sup>	10.92	13	1,500	16,200	10.78	
Total or average	XX	11,200 <sup>r</sup>	129,000 <sup>r</sup>	11.52	XX	10,400	119,000	11.44	

<sup>r</sup>Revised. XX Not applicable.

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

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

TABLE 3  
 MASSACHUSETTS: CRUSHED STONE SOLD OR USED BY PRODUCERS  
 IN 2010, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
<b>Construction:</b>		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	11	137
Other coarse aggregate	406	5,380
Coarse aggregate, graded:		
Bituminous aggregate, coarse	94	984
Railroad ballast	W	W
Other graded coarse aggregate	995	10,400
Fine aggregate (-¾ inch):		
Stone sand, concrete	20	230
Screening, undesignated	W	W
Other fine aggregate	W	W
Coarse and fine aggregates:		
Graded road base or subbase	145	1,470
Crusher run or fill or waste	123	1,050
<b>Agricultural:</b>		
Agricultural, limestone	15	306
Other agricultural uses	45	474
<b>Chemical and metallurgical:</b>		
Lime manufacture	W	W
Dead-burned dolomite manufacture	W	W
Special, whiting or whiting substitute	W	W
Other miscellaneous uses and specified uses not listed	W	W
<b>Unspecified:<sup>2</sup></b>		
Reported	3,090	33,400
Estimated	4,350	54,000
<b>Total</b>	<b>10,400</b>	<b>119,000</b>

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

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

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 4  
 MASSACHUSETTS: CRUSHED STONE SOLD OR USED BY PRODUCERS  
 IN 2011, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	33	335
Unspecified coarse aggregate	70	740
Coarse aggregate, graded:		
Concrete aggregate, coarse	361	4,260
Bituminous aggregate, coarse	W	W
Bituminous surface-treatment aggregate	82	720
Railroad ballast	W	W
Unspecified graded coarse aggregate	435	4,820
Fine aggregate (-¾ inch):		
Stone sand, concrete	73	849
Stone sand, bituminous mix or seal	W	W
Unspecified fine aggregate	389	4,150
Coarse and fine aggregates:		
Graded road base or subbase	387	3,280
Crusher run or fill or waste	289	3,430
Unspecified coarse and fine aggregates	4	41
Unspecified and other construction materials	W	W
Chemical and metallurgical, lime manufacture	91	1,260
Special, other fillers or extenders	1	2
Other miscellaneous uses and specified uses not listed	24	262
Unspecified: <sup>2</sup>		
Reported	1,780	19,300
Estimated	4,550	48,500
<b>Total</b>	<b>10,600</b>	<b>115,000</b>

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

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

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
 MASSACHUSETTS: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2010, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	--	--	W	W	400	5,300
Coarse aggregate, graded <sup>3</sup>	235	2,460	W	W	W	W
Fine aggregate (-¾ inch) <sup>4</sup>	122	1,270	W	W	W	W
Coarse and fine aggregates <sup>5</sup>	27	233	W	W	W	W
Agricultural <sup>6</sup>	61	780	--	--	--	--
Chemical and metallurgical <sup>7</sup>	5	66	--	--	--	--
Special <sup>8</sup>	3	28	--	--	--	--
Other miscellaneous uses and specified uses not listed <sup>9</sup>	--	--	W	W	--	--
Unspecified: <sup>10</sup>						
Reported	--	--	--	--	3,090	33,400
Estimated	1,650	24,900	985	10,600	1,710	18,500
Total <sup>11</sup>	2,110	29,700	1,750	18,300	6,580	71,600

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

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

<sup>2</sup>Includes macadam, riprap and jetty stone, filter stone, and other coarse aggregates.

<sup>3</sup>Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregates.

<sup>4</sup>Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.

<sup>5</sup>Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, roofing granules, and other coarse and fine aggregates.

<sup>6</sup>Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

<sup>7</sup>Includes cement manufacture, lime manufacture, dead-burned dolomite manufacture, flux stone, chemical stone, glass manufacture, and sulfur oxide removal.

<sup>8</sup>Includes mine dusting or acid water treatment, whitening or whitening substance, and other fillers or extenders.

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

<sup>10</sup>Reported and estimated production without a breakdown by end use.

<sup>11</sup>District totals may not add up to the published State total, owing to revisions made after the production of the table and (or) proprietary data being withheld.

TABLE 6  
 MASSACHUSETTS: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2011, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	--	--	W	W	101	1,050
Coarse aggregate, graded <sup>3</sup>	--	--	W	W	2,350	26,600
Fine aggregate (-¾ inch) <sup>4</sup>	--	--	--	--	1,030	11,700
Coarse and fine aggregates <sup>5</sup>	W	W	W	W	651	6,450
Other construction materials	--	--	--	--	W	W
Agricultural <sup>6</sup>	--	--	--	--	--	--
Chemical and metallurgical <sup>7</sup>	W	W	--	--	--	--
Special <sup>8</sup>	--	--	--	--	W	W
Other miscellaneous uses and specified uses not listed <sup>9</sup>	--	--	W	W	--	--
Unspecified: <sup>10</sup>						
Reported	--	--	831	8,860	953	10,400
Estimated	1,950	20,800	971	10,400	1,630	17,300
Total	2,060	22,200	1,840	19,600	6,720	73,500

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

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

<sup>2</sup>Includes macadam, riprap and jetty stone, filter stone, and other coarse aggregates.

<sup>3</sup>Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregates.

<sup>4</sup>Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesigned), and other fine aggregate.

<sup>5</sup>Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, roofing granules, and other coarse and fine aggregates.

<sup>6</sup>Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

<sup>7</sup>Includes cement manufacture, lime manufacture, dead-burned dolomite manufacture, flux stone, chemical stone, glass manufacture, and sulfur oxide removal.

<sup>8</sup>Includes mine dusting or acid water treatment, whitening or whitening substance, and other fillers or extenders.

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

<sup>10</sup>Reported and estimated production without a breakdown by end use.

TABLE 7  
 MASSACHUSETTS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2010,  
 BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	1,380	\$13,600	\$9.88
Concrete products (blocks, bricks, pipe, decorative, etc.) <sup>2</sup>	13	162	12.46
Asphaltic concrete aggregates and other bituminous mixtures	349	5,640	16.15
Road base and coverings <sup>3</sup>	449	4,760	10.59
Fill	743	4,050	5.44
Snow and ice control	163	2,920	17.90
Other miscellaneous uses <sup>4</sup>	260	1,400	5.40
Unspecified: <sup>5</sup>			
Reported	660	5,540	8.40
Estimated	5,680	53,300	9.37
Total or average	9,710	91,400	9.42

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

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (lime).

<sup>4</sup>Includes filtration and railroad ballast.

<sup>5</sup>Reported and estimated production without a breakdown by end use.



TABLE 8  
 MASSACHUSETTS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2011,  
 BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	1,050	\$10,800	\$10.29
Concrete products (blocks, bricks, pipe, decorative, etc.) <sup>2</sup>	63	764	12.13
Asphaltic concrete aggregates and other bituminous mixtures	255	3,810	14.94
Road base and coverings <sup>3</sup>	341	4,600	13.49
Fill	573	2,870	5.01
Snow and ice control	169	2,640	15.62
Other miscellaneous uses <sup>4</sup>	176	1,290	7.33
Unspecified: <sup>5</sup>			
Reported	367	3,370	9.18
Estimated	6,230	63,300	10.16
Total or average	9,230	93,500	10.13

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

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (lime).

<sup>4</sup>Includes filtration and railroad ballast.

<sup>5</sup>Reported and estimated production without a breakdown by end use.

TABLE 9  
 MASSACHUSETTS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2010, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	383	5,150	114	1,120	897	7,540
Asphaltic concrete aggregates and road base materials <sup>3</sup>	422	4,870	182	2,620	195	2,900
Fill	340	2,050	187	1,230	217	764
Snow and ice control	33	597	30	544	100	1,780
Other miscellaneous uses <sup>4</sup>	194	903	16	37	49	463
Unspecified: <sup>5</sup>						
Reported	529	4,340	106	994	25	206
Estimated	847	7,940	1,510	14,100	3,330	31,200
Total <sup>6</sup>	2,750	25,800	2,140	20,700	4,810	44,800

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

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (lime).

<sup>4</sup>Includes filtration and railroad ballast.

<sup>5</sup>Reported and estimated production without a breakdown by end use.

<sup>6</sup>District totals may not add up to the published State total, owing to revisions made after the production of the table and (or) proprietary data being withheld.

TABLE 10  
 MASSACHUSETTS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2011, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	336	4,040	W	W	W	W
Asphaltic concrete aggregates and road base materials <sup>3</sup>	257	3,440	W	W	W	W
Fill	213	1,140	174	1,010	186	717
Snow and ice control	11	117	58	642	100	1,880
Other miscellaneous uses <sup>4</sup>	84	433	60	498	32	354
Unspecified: <sup>5</sup>						
Reported	333	3,030	--	--	34	340
Estimated	992	10,200	1,670	17,200	3,570	35,900
Total	2,230	22,400	2,350	23,800	4,650	47,300

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

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

<sup>2</sup>Includes plaster and gunitite sands.

<sup>3</sup>Includes road and other stabilization (lime).

<sup>4</sup>Includes filtration and railroad ballast.

<sup>5</sup>Reported and estimated production without a breakdown by end use.