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2008 Minerals Yearbook

TEXAS

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U.S. Geological Survey

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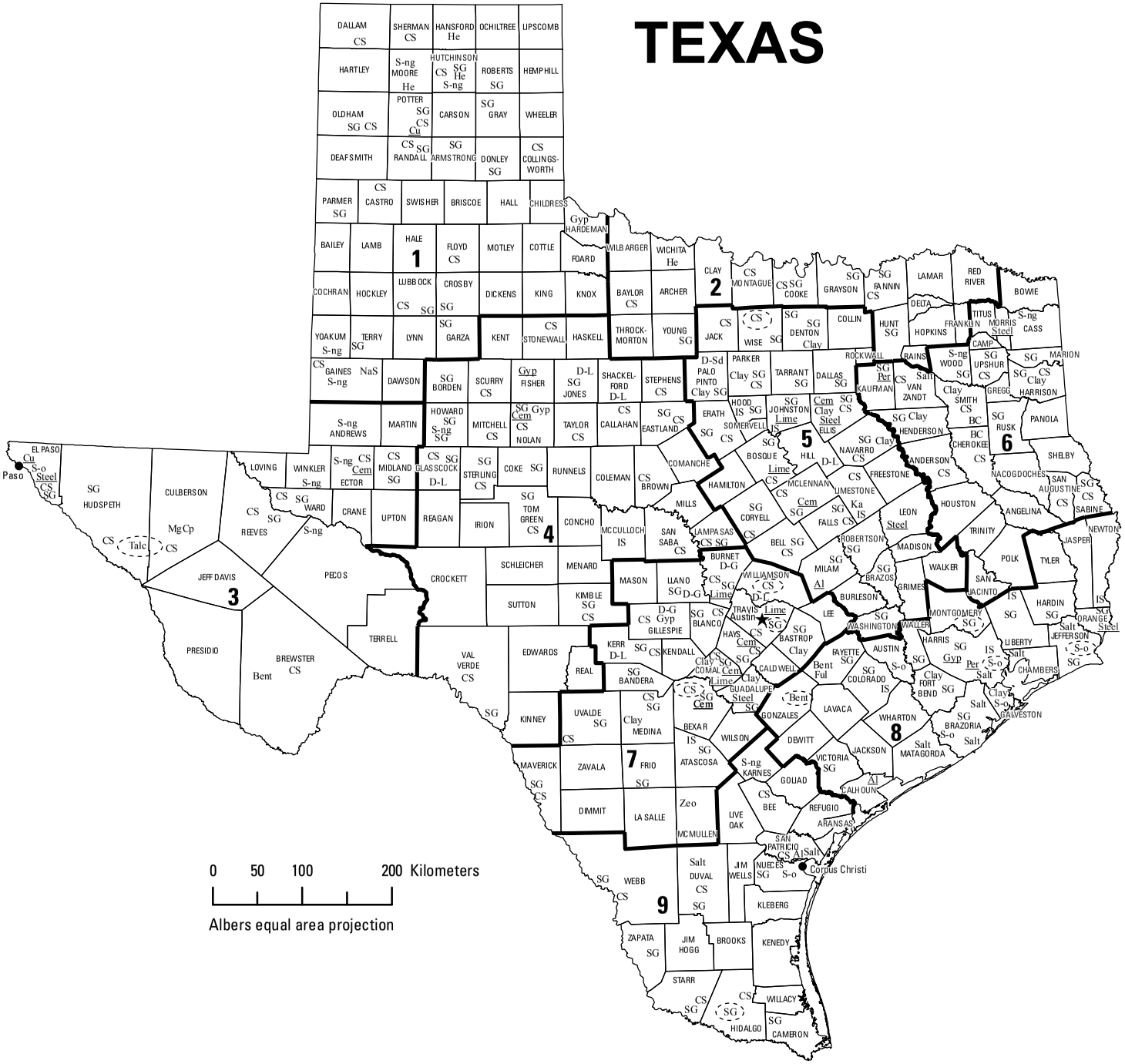
TEXAS



LEGEND

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

MINERAL SYMBOLS (Principal producing areas)

Al	Aluminum plant
BC	Ball clay
Bent	Bentonite
Cem	Cement plant
Clay	Common clay
CS	Crushed stone
Cu	Copper plant
D-G	Dimension granite
D-L	Dimension limestone
D-Sd	Dimension sansdstone
Ful	Fuller's earth
Gyp	Gypsum
Gyp	Gypsum plant
He	Helium
IS	Industrial sand
Ka	Kaolin
Lime	Lime plant
MgCp	Magnesium compounds
Per	Perlite plant
S-ng	Sulfur (natural gas)
S-o	Sulfur (oil)
Salt	Salt
NaS	Sodium sulfate
SG	
Steel	Steel plant
Talc	Talc
Zeo	Zeolites

Concentration of mineral operations

Source: University of Texas at Austin, Bureau of Economic Geology/U.S. Geological Survey (2008).

The Mineral Industry of Texas

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the University of Texas at Austin, Bureau of Economic Geology, for collecting information on all nonfuel minerals.

In 2008, Texas nonfuel raw mineral production[1] was valued at $3.43 billion, based upon annual U.S. Geological Survey (USGS) data. This was a 3.7% increase from the State's total nonfuel mineral value of $3.31 billion for 2007, which followed a $272 million, or 8.9%, increase from 2006 to 2007. Texas ranked sixth among the 50 States in total nonfuel mineral production value, accounting for 4.8% of the U.S. total value. This rise in ranks follows 2 years during which Texas ranked seventh of the 50 States.

Similar to the last several years, Texas produced primarily industrial nonfuel mineral commodities in 2008. The top three mineral commodities produced were, in descending order of value, portland cement, crushed stone, and construction sand and gravel, which accounted for 82.4% of the total nonfuel mineral production value. Portland cement and crushed stone each accounted for more than 30% of the State's total production value and Texas remained the Nation's leading producer of these two mineral commodities in 2008. In addition, the State is the second leading producer of construction sand and gravel. These three major construction nonfuel mineral values, together with those of salt, industrial sand and gravel, lime, and masonry cement, accounted for nearly 96% of the State's total nonfuel mineral value.

The increase in the State's total nonfuel mineral production value in 2008 was led by increases in the value of crushed stone, portland cement, industrial sand and gravel, and salt (listed in descending order of value). These mineral commodities increased by $73.4 million, $50 million, $16 million, and $14 million, respectively. Crushed stone value increased by 7.2%, while the quantity produced decreased by 3.3%, resulting in nearly an 11% increase in unit value. Demand for construction aggregates has declined over the past 3 years owing to the slowdown in principal construction markets nationwide. The production value and quantity of industrial sand and gravel in Texas changed significantly, increasing by 13% and 8.8%, respectively, despite the fact that global and domestic production remained unchanged compared with those of 2007. Significant increases also took place in the production value of bentonite clay (up $8.3 million) and crude helium (value withheld—company proprietary data). The value of bentonite clay more than tripled (up 222%), with a 14% increase in quantity produced, resulting in a 182% increase in unit value. Despite the slowdown in U.S. construction markets and the value of many industrial clays, bentonite clay production increased owing to the strength of the drilling mud market. The next largest increases in unit value after bentonite took place in helium, with crude helium increasing by nearly 26%. With a 7% increase in value and a 14.3% decrease in quantity produced, the unit value of Grade-A helium rose by 24%.

Despite Texas' overall increase in raw nonfuel mineral value, decreases took place in the value of several minerals. The largest decline in value took place in construction sand and gravel, which fell by $27 million and coincided with an 8.6% decrease [8.2 million metric tons (Mt)] in the quantity produced. This drop in production followed a 3.6% (3.6-Mt) decline in 2007. The continued decline of U.S. construction markets contributed to the decrease in the value of construction sand and gravel, as well as the continuous replacement of natural sand and gravel by crushed stone as a major construction aggregate, especially in densely populated areas of the Eastern United States (Bolen, 2009). Decreases also took place in masonry cement, down $11.8 million; lime, down $4 million; and dimension stone, down $3.9 million. Smaller decreases took place in the production values of kaolin, talc, and gypsum as well (values withheld—company proprietary data). The unit values of all but two mineral commodities rose in 2008. Dimension stone fell by 21%, dropping from $130 per metric ton (t) to $103 per ton, and talc dropped 38% (values withheld—company proprietary data). The decline in the unit values of these two mineral commodities was due to the drop in U.S. housing and construction markets in 2008.

In 2008, Texas was the only producer of brucite in the United States (first of two producing States in 2007). The State became the leading producer of common clay and dimension stone in 2008, producing nearly 12% and 15% of the Nation's total, respectively. In 2007, Texas ranked second in common clay production and eighth in dimension stone production. Texas rose in rank from sixth to fifth in the production of masonry cement, bentonite clay, and crude gypsum. The State remained the leading U.S. producer of crushed stone (of all 50 States) and portland cement (of 36 producing States), accounting for 10.3% of crushed stone and 13.3% of portland cement produced nationally. The State remained the 2d leading producer of salt (accounting for 19% of the U.S. total), construction and industrial sand and gravel, ball clay, crude helium (of two producing States) and crude talc; 3d in Grade-A helium; 5th in lime; 6th in kaolin clay; and 11th in fuller's earth. Texas dropped in rank from second to third in the production of zeolites.

Texas continued to produce aluminum, raw steel, and refined copper. The State dropped in rank from fifth to ninth in the production of aluminum of 11 producing States. Production of raw steel in Texas decreased by 19%, with an output of 3.37 Mt, which was 10.8% less than that produced in 2006. Texas produced 3.7% of U.S. raw steel in 2008 and 4.2% of U.S. raw steel in 2007 (American Iron and Steel Institute, 2008, p. 74).

[1]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 2008 USGS mineral production data published in this chapter are those available as of July 2010. 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.

References Cited

American Iron and Steel Institute, 2008, Table 24—Raw steel production by States, *in* American Iron and Steel Institute—AISI 2008 annual statistical report: Washington, DC, American Iron and Steel Institute, 126 p.

Bolen, W.P., 2009, Sand and gravel (construction): U.S. Geological Survey Mineral Commodity Summaries 2009, p. 138–139.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN TEXAS[1, 2]

(Thousand metric tons and thousand dollars)

Mineral	2006		2007		2008	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	382	50,700 e	368	52,100 e	274	40,300 e
Portland	11,300	1,070,000 e	10,900	1,060,000 e	11,100	1,110,000 e
Clays:						
Bentonite	71	4,000	64	3,730	73	12,000
Common	2,360	12,600	1,950	12,600 r	2,070	13,700
Gemstones, natural	NA	202	NA	202	NA	202
Gypsum, crude	1,010	10,200	1,180	8,200	1,040	7,550
Lime	1,650	130,000	1,620	132,000	1,500	128,000
Salt	9,570	132,000	8,950	143,000	9,080	157,000
Sand and gravel:						
Construction	99,500	603,000	95,900 r	654,000 r	87,700	627,000
Industrial	1,530	65,600	3,280	123,000	3,570	139,000
Stone:						
Crushed	141,000 r	861,000 r	153,000 r	1,020,000 r	148,000	1,090,000
Dimension	233 r	30,100 r	243 r	31,600 r	269	27,700
Combined values of brucite, clays (ball, fuller's earth, kaolin), helium, talc (crude), zeolites	XX	68,200	XX	72,100	XX	77,700
Total	XX	3,040,000 r	XX	3,310,000 r	XX	3,430,000

eEstimated. rRevised. NA Not available.
XX Not applicable.
[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[2]Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
TEXAS: CRUSHED STONE SOLD OR USED, BY TYPE[1]

Type	2007			2008		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone [2]	198 r	143,000 r	$950,000 r	202	137,000	$997,000
Marble	5	275	3,150	4	208	4,500
Granite	-- r	-- r	-- r	--	--	--
Sandstone and quartzite	4	789	6,420	6	1,360	11,400
Miscellaneous stone	39 r	8,850 r	57,400 r	42	9,370	77,400
Total	XX	153,000 r	1,020,000 r	XX	148,000	1,090,000

rRevised. XX Not applicable. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes limestone-dolomite reported with no distinction between the two.

TABLE 3
TEXAS: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2008, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	W	W
Filter stone	W	W
Other coarse aggregate	413	4,140
Coarse aggregate, graded:		
Concrete aggregate, coarse	2,320	16,500
Bituminous aggregate, coarse	1,930	19,400
Bituminous surface-treatment aggregate	W	W
Railroad ballast	W	W
Other graded coarse aggregate	8,350	112,000
Fine aggregate (-⅜ inch):		
Stone sand, concrete	W	W
Stone sand, bituminous mix or seal	W	W
Screening, undesignated	1,400	6,140
Other fine aggregate	2,500	20,700
Coarse and fine aggregate:		
Graded road base or subbase	22,200	126,000
Unpaved road surfacing	W	W
Terrazzo and exposed aggregate	W	W
Crusher run or fill or waste	5,210	22,100
Other coarse and fine aggregates	13,400	118,000
Other construction materials	603	2,520
Agricultural:		
Limestone	1,140	8,250
Poultry grit and mineral food	W	W
Other agricultural uses	18	145
Chemical and metallurgical:		
Cement manufacture	17,200	61,300
Lime manufacture	W	W
Sulfur oxide removal	W	W
Special:		
Mine dusting or acid water treatment	W	W
Other fillers or extenders	W	W
Other miscellaneous uses and other specified uses not listed	426	4,980
Unspecified:[2]		
Reported	37,000	255,000
Estimated	27,000	250,000
Total	148,000	1,090,000

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

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

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

TABLE 4
TEXAS: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2008, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	Districts 1 and 2[2]		Districts 3 and 4[2]		Districts 5 and 6[2]		Districts 7, 8, and 9[2]	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction:								
Coarse aggregate (+1½ inch)[3]	W	W	W	W	332	3,790	854	7,450
Coarse aggregate, graded[4]	W	W	1,620	17,600	W	W	10,500	124,000
Fine aggregate (-⅜ inch)[5]	W	W	1,730	12,800	W	W	3,780	27,500
Coarse and fine aggregates[6]	W	W	W	W	8,910	48,200	28,000	189,000
Other construction materials	--	--	--	--	603	2,520	--	--
Agricultural[7]	W	W	W	W	W	W	W	W
Chemical and metallurgical[8]	--	--	W	W	W	W	8,120	28,700
Special[9]	--	--	W	W	W	W	W	W
Other miscellaneous uses	--	--	--	--	--	--	426	4,980
Unspecified:[10]								
Reported	--	--	281	1,990	14,300	98,100	22,400	155,000
Estimated	1,600	15,000	6,800	66,000	9,600	92,000	8,500	79,000
Total	2,640	22,600	13,700	118,000	47,700	315,000	83,000	619,000

Use	Unspecified districts	
	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch)[3]	--	--
Coarse aggregate, graded[4]	5	113
Fine aggregate (-⅜ inch)[5]	--	--
Coarse and fine aggregates[6]	1,090	15,900
Other construction materials	--	--
Agricultural[7]	--	--
Chemical and metallurgical[8]	--	--
Special[9]	--	--
Other miscellaneous uses	--	--
Unspecified:[10]		
Reported	--	--
Estimated	--	--
Total	1,100	16,000

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

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

[2]Districts 1 and 2, 3 and 4, 5 and 6, 7, 8, and 9 are combined to avoid disclosing company proprietary data.

[3]Includes filter stone, riprap and jetty stone, and other coarse aggregate.

[4]Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregate.

[5]Includes screening (undesignated), stone sand (bituminous mix or seal), stone sand (concrete), and other fine aggregates.

[6]Includes crusher run or fill or waste, graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, and other coarse and fine aggregates.

[7]Includes limestone, poultry grit and mineral food, and other agricultural uses.

[8]Includes cement and lime manufacture, and sulfur oxide removal.

[9]Includes mine dusting or acid water treatment and other fillers or extenders.

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

TABLE 5
TEXAS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2008,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	27,600	$214,000	$7.74
Plaster and gunite sands	268	2,770	$10.32
Concrete products (blocks, bricks, pipe, decorative, etc.)	13	155	$11.92
Asphaltic concrete aggregates and other bituminous mixtures	1,100	15,400	$13.94
Road base and coverings	2,460	11,300	$4.59
Road and other stabilization (cement)	879	6,960	$7.92
Road and other stabilization (lime)	11	143	$13.00
Fill	4,420	17,400	$3.93
Other miscellaneous uses[2]	317	1,590	$5.03
Unspecified:[3]			
Reported	13,400	92,800	$6.95
Estimated	37,300	265,000	$7.09
Total or average	87,700	627,000	$7.14

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes filtration and golf course.
[3]Reported and estimated production without a breakdown by end use.

TABLE 6
TEXAS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2008, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	W	W	W	W
Asphaltic concrete aggregates and road base materials[3]	W	W	W	W	W	W
Fill	97	461	144	551	(4)	(4)
Other miscellaneous uses[5]	977	15,000	1,480	9,970	269	1,890
Unspecified:[6]						
Reported	102	787	--	--	257	1,910
Estimated	5,360	38,100	2,060	14,700	2,140	15,200
Total	6,540	54,400	3,690	25,200	2,670	19,000
	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	222	2,600	6,600	49,900	W	W
Asphaltic concrete aggregates and road base materials[3]	62	308	338	2,250	W	W
Fill	94	522	2,830	10,800	--	--
Other miscellaneous uses[4]	--	--	196	384	1,930	13,700
Unspecified:[5]						
Reported	--	--	4,020	24,200	6	20
Estimated	1,440	10,200	12,300	87,800	W	W
Total	1,820	13,700	26,300	175,000	1,940	13,800
	District 7		District 8		District 9	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	W	W	11,400	83,800	3,820	34,100
Asphaltic concrete aggregates and road base materials[3]	397	1,940	W	W	525	4,370
Fill	364	1,680	812	3,240	71	104
Other miscellaneous uses[5]	3,230	25,600	2,150	13,400	--	--
Unspecified:[6]						
Reported	3,680	27,700	5,300	38,300	--	--
Estimated	4,440	31,000	5,780	41,100	2,440	17,400
Total	12,100	87,800	25,400	180,000	6,860	55,900
	Unspecified districts					
	Quantity	Value				
Concrete aggregate and concrete products[2]	337	1,690				
Asphaltic concrete aggregates and road base materials[3]	59	174				
Fill	--	--				
Other miscellaneous uses[5]	--	--				
Unspecified:[6]	--	--				
Reported	--	--				
Estimated	--	--				
Total	395	1,860				

W Withheld to avoid disclosing company proprietary data; included in "Other miscellaneous uses." -- Zero.

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

[2]Includes plaster and gunite sands.

[3]Includes road and other stabilization (cement and lime).

[4]Less than ½ unit.

[5]Includes filtration and golf course.

[6]Reported and estimated production without a breakdown by end use.