2007 Minerals Yearbook

KANSAS [ADVANCE RELEASE]

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U.S. Geological Survey

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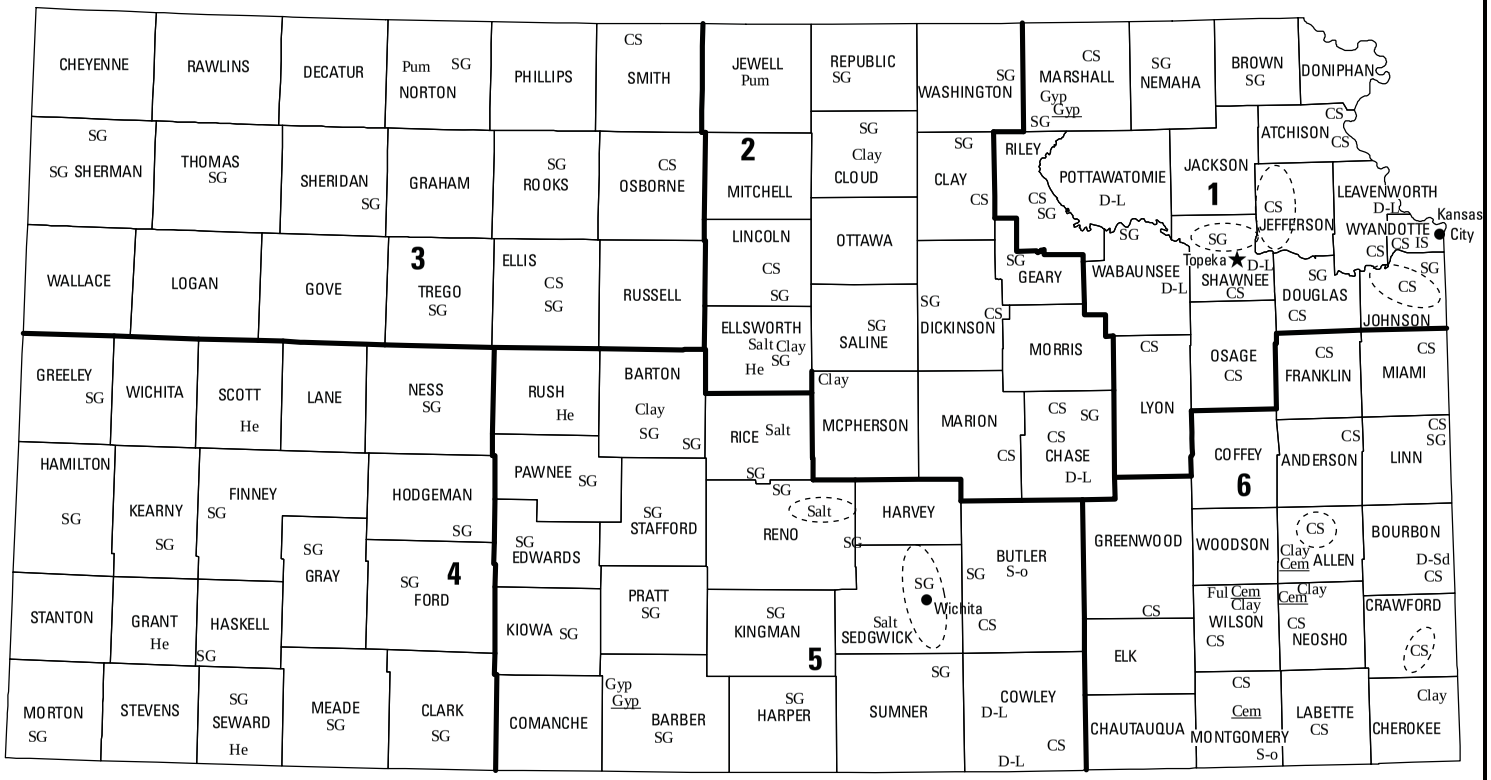
KANSAS



LEGEND

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

MINERAL SYMBOLS
(Major producing areas)

Cem	Cement plant
Clay	Common clay
CS	Crushed stone
D-L	Dimension limestone
D-Sd	Dimension sandstone
Ful	Fuller's earth
Gyp	Gypsum
Gyp	Gypsum plant
He	Helium
IS	Industrial sand
Pum	Pumice and pumicite
S-o	Sulfur (oil)
Salt	Salt
SG	Construction sand and gravel
(dashed oval)	Concentration of mineral operations

Source: Kansas Geological Survey/U.S. Geological Survey (2007).

The Mineral Industry of Kansas

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

In 2007, Kansas' nonfuel raw mineral production[1] was valued at $1.07 billion, based upon annual U.S. Geological Survey (USGS) data. This represented an increase of $92 million, or 9%, from the State's total nonfuel mineral production value of 2006, following a $106 million, or 12%, increase from 2005 to 2006. The State rose to 23d from 24th in rank among the 50 States in total nonfuel mineral production value, of which Kansas accounted for more than 1.5% of the U.S. total. However, per capita, the State ranked 12th in the Nation in its minerals industry value of nonfuel mineral production; with a population of slightly more than 2.78 million, the value of production was about $384 per capita.

Grade–A helium, portland cement, crushed stone, salt, and crude helium were Kansas' leading nonfuel mineral commodities in 2007, accounting for about 30%, 26%, 18%, and 15%, respectively, and collectively about 88%, of the State's total nonfuel mineral production value. In 2007, the most substantial increases in nonfuel mineral commodity value took place in the values of Grade–A helium (up by $71 million), salt (up by $14 million), and crushed stone (up by $8 million) (table 1). Grade–A helium replaced portland cement as the State's leading nonfuel mineral commodity. The value of Grade–A helium showed a significant increase of 29% with only a 3.5% increase in production. The largest decreases in value took place in portland cement (down by $4 million), common clay (down by $3.6 million) and industrial sand and gravel (data withheld-company proprietary data) (table 1).

In 2007, Kansas continued to be the Nation's leading producer of Grade–A helium (of seven producing States) and crude helium (of two producing States). The State increased to 5th from 6th in the quantity of salt produced. Additionally, significant quantities of portland cement, crushed stone, crude gypsum, and common clays (in descending order of value) were produced in the State. Production of nonfuel minerals in Kansas in 2007 consisted entirely of industrial minerals, as it has since 1970, which followed nearly a century of metallic mineral mining beginning in 1877.

The following narrative information was provided by the Kansas Geological Survey (KGS)[2].

[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 2007 USGS mineral production data published in this chapter are those available as of June 2009. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL http://minerals.usgs.gov/minerals.

[2]Lawrence L. Brady, Senior Scientific Fellow at the Kansas Geological Survey, in consultation with Dr. Dennis Baker of the State Conservation Commission, authored the text of the State's mineral industry information provided by that agency.

Mine Development, Employment, and Reclamation Awards

During 2007, there were a total of 1,115 permitted mining sites in Kansas for nonfuel minerals. The private sector operated 134 companies at 464 sites, and 59 county government operations operated 651 sites. This represented a decrease of private operators from 2006 of 1 operator and 1 mining site. The same number of county governments (59) had mining operations in 2007 as in 2006, but with an increase of 2 mining locations. Mining of nonfuel minerals during 2007 resulted in 604 mined hectares (ha) and 191 ha were reclaimed during the year. Since the nonfuel mining reclamation program under State control was started in Kansas on July 1, 1994, there have been a total of 1,810 ha of mined land reclaimed and released from regulatory review (Dennis Baker, Land Reclamation Program Manager, Kansas Conservation Commission, written commun., March 23, 2010). Data concerning employment in the Kansas mining industry was obtained from the Labor Market Information Services of the Kansas Department of Labor. During 2007, the mining industry totaled 1,183 employees, having an average annual salary of $40,210. These figures represented a decrease in the average annual salary of 2.5%, and a decrease of 2.6% in the total number of mining employees in the State from that of 2006. The recipient of the "Kansas Governor's Mined Land Reclamation Award" for 2007 was Bayer Construction Company, Inc. of Manhattan, KS, for reclamation operations at its Moore Quarry, located in Riley County.

Legislation and Government Activities

Two bills related to mining in Kansas were passed during the 2007 legislative session and signed into law by the Governor. The new Kansas statutes 49–511 through 49–517 were about the establishment of a trust to provide relocation assistance and purchase of property for the community of Treece (a Superfund site) in southeastern Cherokee County. Treece suffered extensive adverse environmental effects from past mining within the area of the Tri-State lead-zinc Mining District. The second bill became Kansas statute 49–625. This statute allowed a person possessing land who desired to develop the natural resources on that property to submit an application to a city or county government in which the property exists for the creation, enlargement, reduction, or dissolution of a natural resource development district. If approved, the development district will be filed with the Register of Deeds and recorded on the deeds of the property within the district. Intent of this statute was for the information to be made available to the public following approval by the governing body.

The 2007 Kansas Geological Survey Field Conference was organized and led primarily by members of the Kansas Geological Survey and co-sponsored with several other State

agencies. The field trip centered mainly on environmental problems associated with salt deposits in the south-central area of Kansas. The purpose of this field conference was to inform Kansas legislators and State government officials of methods of brine mining for salt and chlorine, environmental subsidence problems associated with some past brine-mining methods, natural subsidence problems associated with dissolution of salt beds, and efforts being taken to recognize and correct those problems. Information on the field conference, including background material, is available from the Kansas Geological Survey as Open-file Report 2007–12 (Lyle and others, 2007).

The KGS continued a major geologic mapping program supported in part with Federal matching funding from the STATEMAP program, a component of the congressionally mandated National Cooperative Geologic Mapping Program (NCGMP), through which the USGS distributes Federal funds to support geologic mapping efforts through a competitive funding process. The NCGMP has three primary components: (1) FEDMAP, which funds Federal geologic mapping projects, (2) STATEMAP, which is a matching-funds grant program with State geological surveys, and (3) EDMAP, a matching-funds grant program with universities that has a goal to train the next generation of geologic mappers. Geologic mapping during 2007 was conducted in Washington, Dickerson, and Geary Counties, with new mapping starting in Reno, McPherson, Morris, and Harvey Counties. Additional geologic mapping in the EDMAP program of the NCGMP was conducted in Norton and Jewell Counties by the University of Kansas with cooperation of the KGS. Four revised county geologic maps were published in 2007; a map of Barber County with new field mapping by McCauley (2007), and updated and revised geologic maps for Lyon County (O'Connor, 2007a), Osage County (O'Connor, (2007b), Jefferson County (Winslow, 2007), and Wabaunsee County (Mudge and Burton, 2007). Several additional county geologic maps for which field geologic mapping has been completed were in various stages of preparation and review during the year.

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TABLE 1

NONFUEL RAW MINERAL PRODUCTION IN KANSAS[1, 2]

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral		2005 Quantity	2005 Value	2006 Quantity	2006 Value	2007 Quantity	2007 Value
Cement, portland		2,890	244,000 e	3,000	286,000 e	2,760	282,000 e
Clays, common		654	4,590	697	7,440	563	3,830
Gemstones		NA	1	NA	1	NA	1
Helium, Grade–A	million cubic meters	90	226,000	85	245,000	88	316,000
Salt		2,890	135,000	2,600 r	144,000	2,870	158,000
Sand and gravel, construction		10,100	36,900	12,100	50,000	10,700	49,600
Stone:							
Crushed		22,300	160,000	23,300 r	181,000 r	21,400	188,000
Dimension		13	1,590	17	2,270	14	1,990
Combined values of cement (masonry), clays (fuller's earth), gypsum (crude), helium (crude), pumice and pumicite, sand and gravel (industrial)		XX	64,100 r	XX	63,100 r	XX	67,200
Total		XX	873,000 r	XX	978,000 r	XX	1,070,000

[e]Estimated. [r]Revised. 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 three significant digits; may not add to totals shown.

TABLE 2

KANSAS: CRUSHED STONE SOLD OR USED, BY TYPE[1]

Type	2006 Number of quarries	2006 Quantity (thousand metric tons)	2006 Value (thousands)	2007 Number of quarries	2007 Quantity (thousand metric tons)	2007 Value (thousands)
Limestone	114 r	22,300 r	$173,000 r	125	20,700	$183,000
Miscellaneous stone	2	996	7,880	2	603	5,460
Total	XX	23,300 r	181,000 r	XX	21,400	188,000

[r]Revised. XX Not applicable.

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

TABLE 3

KANSAS: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	39	591
Filter stone	253	3,290
Other coarse aggregate	10	123
Coarse aggregate, graded:		
Concrete aggregate, coarse	W	W
Bituminous aggregate, coarse	W	W
Fine aggregate (-⅜ inch), screening, undesignated	W	W
Coarse and fine aggregates:		
Graded road base or subbase	471	3,310
Unpaved road surfacing	333	506
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	487	4,270
Agricultural:		
Limestone	W	W
Other agricultural uses	5	60
Chemical and metallurgical, cement manufacture	W	W
Unspecified:[2]		
Reported	7,940	69,300
Estimated	9,100	81,000
Total	21,400	188,000

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

KANSAS: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE AND DISTRICT[1, 2]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[3]	W	W	72	786	W	W
Coarse aggregate, graded[4]	W	W	--	--	--	--
Fine aggregate (-⅜ inch)[5]	W	W	W	W	--	--
Coarse and fine aggregate[6]	427	3,480	W	W	W	W
Agricultural[7]	9	29	5	24	W	W
Chemical and metallurgical[8]	--	--	--	--	--	--
Unspecified:[9]						
Reported	3,120	27,500	1,820	15,400	--	--
Estimated	3,600	32,000	1,500	13,000	--	--
Total	7,660	67,700	3,580	31,100	196	585

	District 5		District 6	
	Quantity	Value	Quantity	Value
Construction:				
Coarse aggregate (+1½ inch)[3]	W	W	6	47
Coarse aggregate, graded[4]	W	W	--	--
Fine aggregate (-⅜ inch)[5]	W	W	40	206
Coarse and fine aggregate[6]	W	W	374	1,780
Agricultural[7]	--	--	W	W
Chemical and metallurgical[8]	--	--	W	W
Unspecified:[9]				
Reported	--	--	3,000	26,300
Estimated	986	8,700	3,000	27,000
Total	1,210	10,400	8,700	78,500

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]No production for District 4.

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

[4]Includes concrete aggregate (coarse) and bituminous aggregate (coarse).

[5]Includes screening (undesignated).

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

[7]Includes agricultural limestone and other agricultural uses.

[8]Includes cement manufacture.

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

TABLE 5
KANSAS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate and concrete products	1,770	$9,140	$5.16
Plaster and gunite sands	19	136	7.08
Asphaltic concrete aggregates and other bituminous mixtures	487	4,160	8.53
Road base and coverings[2]	1,200	5,840	4.88
Fill	1,230	3,790	3.09
Snow and ice control	92	529	5.76
Other miscellaneous uses[3]	471	1,660	3.53
Unspecified:[4]			
Reported	801	3,260	4.07
Estimated	4,620	21,100	4.57
Total or average	10,700	49,600	4.65

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes road and other stabilization (lime).
[3]Includes filtration and railroad ballast.
[4]Reported and estimated production without a breakdown by end use.

TABLE 6
KANSAS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007, BY USE AND DISTRICT[1, 2]

(Thousand metric tons and thousand dollars)

Use	District 1		Districts 2 and 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[3]	677	3,900	439	2,310	W	W
Asphaltic concrete aggregates and road base materials[4]	190	1,310	332	1,760	586	4,680
Fill	241	1,000	290	1,160	53	179
Other miscellaneous uses[5]	325	903	41	301	407	1,940
Unspecified:[6]						
Reported	--	--	117	548	158	346
Estimated	1,970	9,240	757	3,120	311	1,460
Total	3,410	16,400	1,980	9,190	1,520	8,610
	District 5		District 6		Unspecified districts	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[3]	W	W	--	--	--	--
Asphaltic concrete aggregates and road base materials[4]	575	2,240	--	--	--	--
Fill	642	1,450	--	--	--	--
Other miscellaneous uses[5]	465	2,120	--	--	--	--
Unspecified:[6]						
Reported	489	2,190	--	--	37	173
Estimated	1,530	7,070	50	234	--	--
Total	3,700	15,100	50	234	37	173

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]Districts 2 and 3 are combined to avoid disclosing company proprietary data.
[3]Includes plaster and gunite sands.
[4]Includes road and other stabilization (lime).
[5]Includes filtration, railroad ballast, and snow and ice control.
[6]Reported and estimated production without a breakdown by end use.