2009 Minerals Yearbook

KANSAS [ADVANCE RELEASE]

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U.S. Geological Survey

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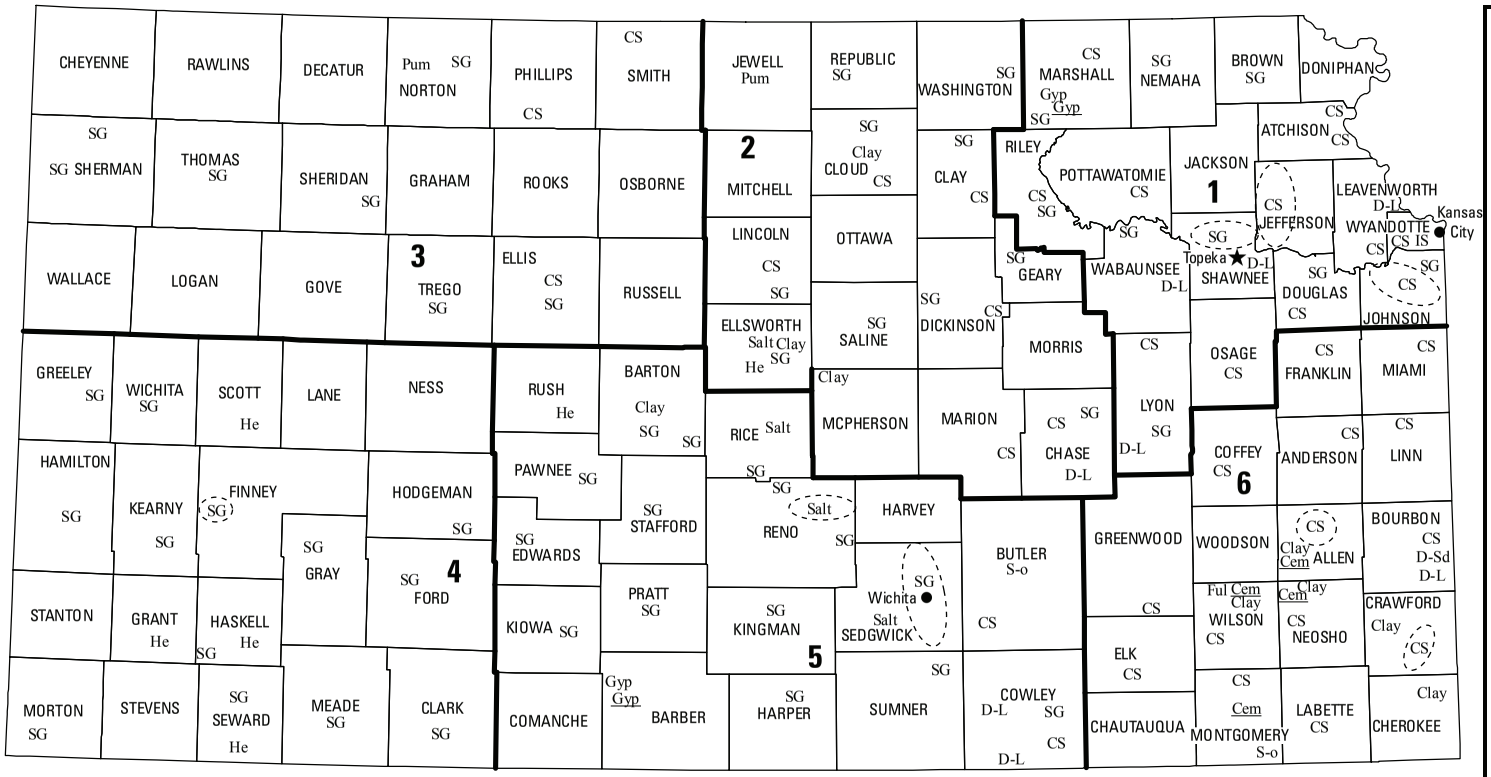
KANSAS



LEGEND

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

MINERAL SYMBOLS
(Principal 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

Concentration of mineral operations

0 50 100 Kilometers

Albers equal area projection

Source: Kansas Geological Survey/U.S. Geological Survey (2009).

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 2009, Kansas' nonfuel raw mineral production[1] was valued at $953 million, based upon annual U.S. Geological Survey (USGS) data. This represented a $169 million, or 15%, decrease from the State's total nonfuel mineral production value of 2008, which followed a $48 million, or 4.5%, increase from 2007 to 2008. The State rose to 20th from 22d in rank among the 50 States in total nonfuel mineral production value, of which Kansas accounted for more than 1.6% of the U.S. total. Per capita, the State ranked 10th in the Nation based on its nonfuel mineral industry production value; with a population of just over 2.8 million, the production value was about $338 per capita.

Grade-A helium, salt, portland cement, and crushed stone were Kansas' leading nonfuel mineral commodities in 2009, accounting for about 35%, 20%, 18%, and 15%, respectively, of the State's total nonfuel mineral production value. These four mineral commodities collectively accounted for 87% of the State's total production value. The only increases in nonfuel mineral commodity production value took place in salt (up by $10 million) and dimension stone (up by $2 million). Dimension stone production in Kansas increased by 45%, up to 29,000 metric tons (t) in 2009 from 20,000 t in 2008, whereas salt production was down 10% to 2.7 million metric tons (Mt) in 2009 from 3 Mt in 2008 (table 1). Kansas was one of six States that showed an increase in the production value of dimension stone, out of 37 producing States.

The largest decreases in Kansas' mineral commodity production values took place in portland cement (down by $76 million), Grade-A helium (down by $51 million), crushed stone (down by $37 million), and construction sand and gravel (down by $8.3 million) (table 1). Crude gypsum, industrial sand and gravel, and masonry cement showed significant decreases in value; common clays showed moderate decreases in value; and the value of crude helium and pumice and pumicite decreased slightly (data withheld-company proprietary data) (table 1). Most of these industrial minerals are widely used in the construction industry and were affected by the ongoing economic downturn.

Kansas continued to be the leading producer of both crude and Grade-A helium. Kansas remained 5th of 16 producing States in the quantity of salt produced, and 7th of 7 States in the quantity of pumice and pumicite produced. The State rose in rank from 12th to 9th (of 16 producing States) in the quantity of crude gypsum produced, from 13th to 12th (of 36 producing States) in the quantity of portland cement produced, and from 22d to 15th (of 37 producing States) in the quantity of dimension stone produced. Kansas dropped to 13th from 12th (of 38 producing States) in the quantity of common clays produced, and from 21st to 23d (of 50 producing States) in the quantity of crushed stone produced. Production of nonfuel minerals in Kansas in 2009 consisted entirely of industrial minerals, as it has since 1970, following nearly a century of metal production that began in 1877.

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

Employment, Mining Activities, and Reclamation Awards

During 2009, the mining industry totaled 1,076 employees, with an average annual salary of about $41,900. This represented a decrease of 10.3% in total number of mining employees, with a less-than-1% increase in average annual salary, with an approximately 10% decrease in the total number of mineral industry employees from that of 2008. Data concerning employment in the Kansas mineral industry was obtained by the Labor Market Information Services of the Kansas Department of Labor (Kansas Department of Labor, 2013).

A total of 1,149 mining sites for nonfuel mineral commodities operated in Kansas in 2009. The private sector had 141 companies operating at 492 sites and 59 county government agencies operating at 657 sites. This represented an increase from 2008 of 4 private sector operators and 13 mining sites. County government agencies experienced no change in the number of mining operations or locations from 2008 to 2009. There were approximately 590 hectares (ha) mined and 260 ha reclaimed during 2009. A total of about 2,240 ha of mined land have been reclaimed and released from regulatory review since the State nonfuel mining reclamation program began in July 1994 (S.B. Carlson, Assistant Director/Land Reclamation Program Manager, Kansas Conservation Commission, written commun., July 16, 2010).

The Kansas Governor's Mined Land Reclamation Award for 2009 was presented to two recipients. The Kansas Department of Wildlife and Parks received the award for reclaiming a 17-ha abandoned limestone quarry near Melvern Lake Area in Osage County. The reclaimed area was converted into both a youth/mentor fishing and hunting area and an area for the benefit of wildlife and public recreation. Cornejo Materials, Inc., received the award for reclaiming a 37-ha sand operation located in northwest Wichita. The 24-ha lake resulting from sand removal was contoured to allow for future housing development (Kansas State Conservation Commission, 2010, p. 6).

[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 2009 USGS mineral production data published in this chapter are those available as of September 2011. 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] Daniel R. Suchy, Geologist of the Data Resources Library of 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.

Legislation and Government Activities

No significant legislation concerning the nonfuel mineral industry passed the Kansas legislature during the 2009 session. The 2009 Kansas Geological Survey Field Conference was organized and led primarily by members of the KGS and cosponsored with several other State agencies. The field trip centered around environmental and natural resource issues in southwestern Kansas, an area rich in natural resources such as the Hugoton Natural Gas Field and the Ogallala aquifer. The purpose of this field conference was to inform Kansas legislators and State government officials of the effects of climate change, and covered topics such as road construction projects and water-quality, land-rights, and material-supply issues. Stops included the Abengoa Bioenergy Corp.'s hybrid refinery (a cellulosic-ethanol plant), the U.S. Department of Agriculture's Cimarron National Grassland; Sunflower Electric Power Corp.'s Holcomb Station coal-fired power plant; enXco, Inc.'s Spearville Wind Farm; and the Winger Archeological Site. Information on the field conference, including background material, is available from the KGS (Lyle and others, 2009).

The KGS continued a major geologic mapping program supported in part by the STATEMAP program of the 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 in 2009 was conducted in Harvey, McPherson, Morris, and Reno Counties. Additional geologic mapping in the EDMAP program of the NCGMP was conducted in Finney, Hamilton, and Kearny Counties by the University of Kansas in cooperation with the KGS. A new geologic map of Ford County (Johnson and Woodward, 2009) was published by the KGS. Several additional county geologic maps for which field geologic mapping had been completed were in various stages of preparation and review during the year.

References Cited

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Kansas Department of Labor, 2013, Quarterly census of employment and wages: Topeka, KS, Kansas Department of Labor, August. (Accessed August 18, 2013, at https://klic.dol.ks.gov/gsipub/index.asp?docid=419.)

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Lyle, S.A., Evans, C.S., Sawin, R.S., and Buchanan, R.C., eds., 2009, Southwest Kansas climate, energy, and water consumption—2009 Kansas field conference field guide: Lawrence, KS, Kansas Geological Survey Open-File Report 2009–11, 71 p. (Accessed August 18, 2013, at http://www.kgs.ku.edu/Field/Reports/KGS_OF_2009-11.pdf.)

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral		2007 Quantity	2007 Value	2008 Quantity	2008 Value	2009 Quantity	2009 Value
Cement, portland		2,760	282,000 e	2,400	246,000 e	1,670	170,000 e
Clays, common		563	3,830	548	2,840	381	2,430
Gemstones, natural		NA	1	NA	1	NA	1
Helium, Grade-A	million cubic meters	88	316,000	79	384,000	68	332,000
Salt		2,870	158,000	3,010	178,000	2,710	188,000
Sand and gravel, construction		11,200 r	52,100 r	10,500 r	51,600 r	8,580	43,300
Stone:							
Crushed		23,400	199,000	23,100 r	180,000	17,200	143,000
Dimension		14	1,990	20	2,560	29	4,650
Combined values of cement (masonry), clays (fuller's earth), gypsum (crude), helium (crude), pumice and pumicite, sand and gravel (industrial)		XX	62,200 r	XX	77,500 r	XX	69,200
Total		XX	1,070,000 r	XX	1,120,000	XX	953,000

[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	2008 Number of quarries	2008 Quantity (thousand metric tons)	2008 Value (thousands)	2009 Number of quarries	2009 Quantity (thousand metric tons)	2009 Value (thousands)
Limestone	128 r	21,700	$171,000	97	16,900	$141,000
Miscellaneous stone	3	1,370	8,620	3	291	2,570
Total	XX	23,100 r	180,000	XX	17,200	143,000

[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 2009, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	54	678
Other coarse aggregate	39	462
Coarse aggregate, graded:		
Concrete aggregate, coarse	307	3,050
Bituminous aggregate, coarse	W	W
Other graded coarse aggregate	868	8,630
Fine aggregate (-⅜ inch):		
Screening, undesignated	517	2,420
Other fine aggregate	65	588
Coarse and fine aggregates:		
Graded road base or subbase	1,070	8,020
Unpaved road surfacing	348	1,220
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	550	5,430
Other construction materials	58	333
Agricultural:		
Limestone	W	W
Other agricultural uses	W	W
Chemical and metallurgical, cement manufacture	W	W
Unspecified:[2]		
Reported	4,190	36,500
Estimated	8,220	68,000
Total	17,200	143,000

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 2009, 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	--	--	W	W
Coarse aggregate, graded[4]	W	W	--	--	W	W
Fine aggregate (-⅜ inch)[5]	W	W	W	W	--	--
Coarse and fine aggregate[6]	W	W	W	W	W	W
Other construction materials	34	114	--	--	--	--
Agricultural[7]	W	W	--	--	W	W
Chemical and metallurgical[8]	--	--	--	--	--	--
Unspecified:[9]						
Reported	825	7,230	681	5,810	--	--
Estimated	3,080	25,600	244	2,030	--	--
Total	5,740	49,400	1,540	12,000	80	579

	District 5		District 6	
	Quantity	Value	Quantity	Value
Construction:				
Coarse aggregate (+1½ inch)[3]	--	--	W	W
Coarse aggregate, graded[4]	--	--	W	W
Fine aggregate (-⅜ inch)[5]	--	--	W	W
Coarse and fine aggregate[6]	--	--	933	#####
Other construction materials	--	--	24	220
Agricultural[7]	--	--	W	W
Chemical and metallurgical[8]	--	--	W	W
Unspecified:[9]				
Reported	847	7,600	1,840	15,900
Estimated	1,480	12,300	3,410	28,100
Total	2,330	19,900	7,510	61,500

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 riprap and jetty stone and other coarse aggregate.

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

[5]Includes screening (undesignated) and other fine aggregate.

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

[7]Includes 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 2009,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	849	$4,110	$4.84
Plaster and gunite sands	29	214	7.38
Concrete products (blocks, bricks, pipe, decorative, etc.)	58	671	11.57
Asphaltic concrete aggregates and other bituminous mixtures	246	1,570	6.39
Road base and coverings[2]	1,630	7,890	4.85
Fill	772	2,490	3.23
Snow and ice control	31	163	5.26
Other miscellaneous uses[3]	116	810	6.98
Unspecified:[4]			
Reported	644	3,090	4.80
Estimated	4,200	22,200	5.29
Total or average	8,580	43,300	5.05

[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 (cement and lime).
[3]Includes filtration, golf course, 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 2009, 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 and road base materials[3]	W	W	436	3,150	W	W
Fill	87	366	116	630	2	5
Other miscellaneous uses[4]	172	1,090	118	895	213	649
Unspecified:[5]						
Reported	324	1,700	124	696	21	110
Estimated	2,390	12,300	218	1,180	137	741
Total	2,970	15,500	1,010	6,550	373	1,510
	District 4		District 5[6]		Unspecified districts	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	200	1,510	523	2,390	--	--
Asphaltic concrete aggregates and and road base materials[3]	679	3,030	533	2,410	--	--
Fill	113	216	455	1,280	--	--
Other miscellaneous uses[4]	5	17	78	290	--	--
Unspecified:[5]						
Reported	107	239	65	328	4	20
Estimated	492	2,650	970	5,360	--	--
Total	1,600	7,670	2,620	12,100	4	20

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]Includes filtration, golf course, railroad ballast, and snow and ice control.
[5]Reported and estimated production without a breakdown by end use.
[6]No production for District 6.