

The Mineral Industry in Kansas During 2002

By

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A comparison of total industrial mineral value (preliminary figures for 2002) in Table 1 shows an increase of \$32 million over the 2001 value, a year to year increase of nearly 5.1 percent. The increase was largely due to the increased production of Portland cement during 2002 while the value per ton remained about the same. The total value made Portland cement Kansas' leading nonfuel mineral commodity in 2002, representing nearly 27% of the state's total, and surpassing the value of Grade-A Helium which has been the State's leading nonfuel mineral commodity in recent years.

According to the Labor Market Information Services of the Kansas Department of Human Resources, an average of 6,520 persons were employed in all aspects of mining during 2002. This represents a drop of nearly 400 persons from the nearly 6,900 reported for 2001. The majority were employed in the oil and gas industry segment of mining, with the remainder in coal and nonmetallic, nonfuel mining operations. The nonfuel industrial mineral operations averaged nearly 1,240 persons with an average, annual salary of \$34,770. Although the number of employees was down some from last years 1,300 persons (-4.6%), the average salary was down sharply from last years figure of \$39,740 (about \$5,000 or a 12.6% decline).

In the area of mergers and acquisitions, Pratt Concrete Products and Whitfield Sand and Gravel were both acquired by Klaver Construction Products. All of these operations are located in Pratt County.

Last year's chapter reported the passage by the legislature of a law that banned the sale of aggregate by county operations to the public. Prior to this law, four counties that had their own crushing operations also had been selling any of their excess capacity on the open market, thereby competing with the private sector. Although the county operations are complying with this new law, the city of Fort Scott (Bourbon County) has a crushing operation and has sold a very small amount aggregate for private driveways. It appears taht the city is attempting to test the new law.

The 10-year Comprehensive Transportation Program (CTP) for Kansas, approved in 1999, has been and continues to be facing some difficulties due to declining State revenues. Monies raised by fuel taxes have been offset by budget cuts. The CTP has been continuing in part because monies earmarked for maintenance are being transferred to new construction. The Kansas Aggregate Producers Association (KAPA) believes this cannot continue and that once maintenance monies are depleted, some new projects may be put on hold or else cancelled during the next year.

On Earth Day, it was announced that there would be a governors reclamation award. A panel of individuals from related State agencies would review and select awardees for both conservation and reclamation awards to be presented at the annual meeting of the KAPA-KRMCA in January, 2003. The object of this program is to make the public aware of positive aspects of the mineral extraction

industry as well as to recognize companies for their outstanding efforts in returning the land to its original appearance.

At the annual meeting in January of KAPA-KRMCA, Johnson County Aggregates was named the KAPA winner in the aggregate industry's safety program.

Portions of the Forest City and Cherokee basins are being evaluated for their coal bed methane potential by the KGS. During 2002, drillers completed 141 wells bringing the total wells drilled at year's end to 616. The majority of the wells are drilled to the top of the Mississippian. Some of the wells are for evaluating one coal bed while others are comingled (two or more beds). In some cases, shales in contact with the coal seams are also evaluated.

Based on two years of studies by the KGS, the following summary has been provided pertaining to the gas leak and explosion at Hutchinson in early 2001. Natural gas escaped from a casing leak at a depth of 595 ft (182 m) in a gas storage well, S-1, in the Yaggy Gas Storage Facility in central Kansas. Uncontrolled natural gas release and subsequent fatal explosion and fire occurred two days later in unplugged brine wells in Hutchinson, Kansas, located 7 miles to the east of the storage facility. Several observation wells near Yaggy encountered gas at a depth of 420 ft (128 m), while in Hutchinson, vent wells encountered gas as shallow as 240 ft (73 m), reflecting regional westerly structural dip. With the exception of DDV (deep drill vent) #64, gas was confined to a 15-ft (4.6m) thick interval encompassing three thin (2-3 ft) beds of dolomitic limestone. The dolomite beds are equivalent to the Milan Limestone, stratigraphically located at the top of Lower Permian Upper Wellington Formation. Vent wells also closely follow the crest of a narrow, low-relief, asymmetric, northwesterly-plunging anticline located between Yaggy Gas Storage Facility and the City of Hutchinson. A pre-existing, narrow fracture cluster, developed along the crest of the anticline, appears to have been opened by the initial high gas pressure (approximately 600 psi), serving as a conduit for lateral migration of natural gas. Gypsum beds immediately overlying the dolomite beds may have acted as a seal that prevented further vertical gas migration. Solution collapse related to old brine extraction wells and natural sinkhole development in the area were not involved in the gas leak. Episodic, but minor salt dissolution in the upper portion of the Hutchinson Salt may have enhanced flexuring and tension fractures along the crest of the anticline along which gas apparently migrated. However, evidence to date indicates that the salt caverns were never breached during the event.

Governmental Programs

The multiyear State mapping program continued at the Kansas Geological Survey (KGS). A geologic map was issued for Comanche County (M-10) with similar maps for Bourbon and Cherokee counties nearly complete and expected to be issued early next year. Digital upgrading is underway for Pottawatomie and Wabaunsee counties. Mapping is nearing completion in Barber, Clark, Douglas, Franklin, Ford, Gray, Hamilton, Hodgeman, Kearney, Neosho, Osborne, and Republic counties. Mapping has begun in Crawford, Jefferson, Pawnee, Saline, Sedgwick, and Washington counties. Mapping is also underway in Cheyenne and Morton counties with support by the KGS.

A total of 71 open-file reports (OFR) were filed with the library. Not surprisingly, in view of the natural gas explosion in Hutchinson in 2001, several reports involved seismic and related studies in the Hutchinson area, including the use of high-resolution seismic reflection to characterize a subsidence feature along US Highway 50 near Hutchinson (OFR 2002-17).

Due to budget restraints, it was announced that the internationally known Mathematical Geology Section of the KGS would be eliminated next year. OFR 2002-39 lists the contributions of this section from 1962 to 2002.

Finally, the KGS has been gradually adding out of print bulletins and volumes to their website (www.kgs.ku.edu) since 1999. Most of these on-line publications cover the geology and ground water resources of selected counties, but a few of them also discuss the mineral resources of these counties.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN KANSAS 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

| Mineral | 2000 | | 2001 | | 2002 p/ | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|----------|------------|----------|------------|---------|
| | Quantity | Value | Quantity | Value | Quantity | Value | |
| Cement: | | | | | | | |
| Masonry | W | W | 25 | 2,460 e/ | 310 e/ | 3,000 e/ | |
| Portland | 1,980 | 155,000 e/ | 1,830 | 140,000 e/ | 2,310 e/ | 177,000 e/ | |
| Clays, common | 594 | 3,970 | 635 | 4,280 | 647 | 4,230 | |
| Gemstones | NA | 12 | NA | 3 | NA | 1 | |
| Helium: | | | | | | | |
| Crude | million cubic meters | W | W | 36 | 39,400 | 32 | 35,100 |
| Grade-A | do. | 77 | 153,000 | 82 | 163,000 | 86 | 171,000 |
| Salt | | 2,770 | 114,000 | 3,130 | 122,000 | 3,060 | 123,000 |
| Sand and gravel, construction | | 10,000 | 28,200 | 10,200 | 29,100 | 9,600 | 27,800 |
| Stone: | | | | | | | |
| Crushed | | 23,300 | 113,000 | 22,800 | 110,000 | 22,000 | 109,000 |
| Dimension | metric tons | 14,100 | 1,890 | 13,000 | 4,780 | 12,600 | 1,390 |
| Combined values of clays (fuller's earth), gypsum (crude), pumice and pumicite, sand and gravel (industrial), and values indicated by symbol W | | | | | | | |
| | | XX | 59,800 | XX | 14,300 | XX | 9,930 |
| Total | | XX | 629,000 | XX | 629,000 | XX | 661,000 |

e/ Estimated. p/ Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined values" data. 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.

Note to user:

Unless you find that we have published the 2002p data from the above Table 1, please reference this USGS production data when publishing in your own publication as shown below (or in a very similar manner). Check the USGS Minerals Information Team (MIT) Web site <<http://minerals.er.usgs.gov/minerals/>> under "Statistics and Information," for "your [State]," then "Minerals Yearbook," "2002." The 2000 and 2001 final data (unless since revised) were previously published in the USGS Statistical Summary for 2001 found from the same home page under "Commodity."

[Unpublished U.S. Geological Survey (USGS) data, subject to change; official USGS preliminary 2002 data will be published in the [your State name] chapter of the USGS Mineral Yearbook, Area Reports: Domestic 2002, Volume II]

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