



Ben Daniels (left) of APS and Doug Sawyer, Director, celebrate the successful delivery of the shovel bucket from the Ray mine. APS sandblasted and coated the bucket for the Department. The 100,000-pound bucket has already become a favorite with visiting school children.



Arizona Department of Mines & Mineral Resources
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Address Correction Requested

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Mineral Resource

Active Mines Directory Released

The Department has released the Directory of Active Mines in Arizona - 2001-2002.

Arizona's 2000 mineral production value was \$2.8 billion and the estimate for 2001 is \$2.5 billion. Arizona accounted for more than 65 percent of the U.S. copper production, leading the Nation in the production of this commodity as it has for decades. 2000/2001 proved to be a mixed period for Arizona mining. A growing population and expanding infrastructure continued to increase demand for construction minerals. The value of these industrial minerals produced in 2000 is estimated to be \$679.0 million and \$693.3 million in 2001. The bad news occurred in Arizona's largest and most important mining segment, the copper industry, which was negatively impacted by concerns about energy supplies and was hit especially hard by lower copper prices. Copper represents about 70 percent of Arizona's total nonfuel mineral production value.

In 2000 Arizona was the leading state in molybdenum production, second in gemstones, third in crude perlite, fourth in construction sand and gravel, silver and zeolites, fifth in pumice and pumicite, sixth in iron oxide pigments, seventh in bentonite, and eighth in crude gypsum and dimension stone. There are 78 mining companies operating 160 mines in the state, with an additional 60 sand and gravel producers operating 160 pits and plants. The mining industry directly employs approximately 9,000 people in Arizona.

Arizona's copper industry contracted significantly as the industry struggled to survive near record-low copper prices (in constant dollars), growing commodity warehouse inventories resulting from the slow global economy and the US recession, the tight regional energy market, and the impacts to consumption from the events of September 11.

The average copper price decreased \$.11 to \$.77 per pound in 2001, a decline of 8 percent from 2000. During the fall the copper price reached a 14-year low of \$.60 per pound. In November 2001, the price jumped about 10 cents as Phelps Dodge, Asarco and others announced new production cutbacks and even Chilean government-owned

Codelco reported it was considering cutbacks for 2002. With other producers around the globe also reducing production there was some hope that huge inventories would not hang over the market for a long period.

Arizona's production declined 8 percent in 2001 and has dropped nearly 30 percent since the year of peak production, 1997. Monthly employment figures over the 5-year period fell from a peak of 11,400 to 6,500 at year's end, a 43 percent drop. It is anticipated copper production will drop further. Effective in early 2002, of Arizona's seven major mines, one will close and three will operate at less than 50 percent of capacity. Despite the decline, Arizona still accounts for 65 percent of primary US copper production. Additionally, when prices do rebound Arizona mines, with their extensive resources and highly-skilled miners will be ready.

The directory lists company name, corporate address and key personnel, websites, mine, mill, or smelter location, and a description of the operation. Metal mines, non-metal mines (excluding sand and gravel), smelters, and company offices are plotted on a 1:1,000,000 scale map. The directory is available from the Department of Mines and Minerals Resources' office in Phoenix, 1502 West Washington, Phoenix, Arizona 85007 for \$6.00. If mailed, the directory is \$9.00.

Arizona Commodity Ranking in the US - 2000

1st	Copper
1st	Molybdenum
2nd	Gemstones
3rd	Perlite
4th	Sand and gravel, construction
4th	Silver
4th	Zeolites
5th	Pumice
6th	Iron oxide pigments

Museum News

Family Day A Huge Success

Despite rain and hail, Family Day on Saturday, October 26 was a resounding success. During an early morning spot on Channel 3's Good Morning Arizona, Susan and Stan Celestian highlighted the activity projects and visually appealing minerals. It made a big difference in the attendance, as many valley residents discovered our event and decided to make it part of their day. About 545 people attended, a 40 percent increase over last year's record attendance. Activities included gold panning, a coin shoot, jewelry and pet rock making, mineral cards, lapidary, faceting and carving demonstrations, inlay and wire wrapping demonstrations, and kid's corner with hands-on rocks, minerals, fossils and books – and there were five mineral dealers and the Arizona Mineral and Mining Museum Foundation offering a wide range of specimens for purchase. All the dealers did well, as did the Museum gift shop (the Museum's primary source of funding for tour guides and education programs.)

Eyes and Ears

Tour guide and volunteer, Liz Anderson, has spearheaded a new public relations program. There will be regularly scheduled press releases, intended to increase the media's awareness of the presence of the Museum and its educational resources.

Please be our eyes and ears! If you see a television, radio or print medium we should contact, let Liz know by e-mailing her at azmmm@hotmail.com or calling the Museum at 602.255.3795 ext 10.

Also, we are in the process of building a packet of letters and petitions to help document the value of the Department and Museum resources and services. If you have received help, experienced a positive group or individual visit, or just love beautiful mineral displays, PLEASE send us letters, telling us how you feel. It may be very helpful in the near future.

Heavy Meal Wins Trophy

The Museum's State Fair 2002 exhibit was the *Banquet of Rocks* – a sumptuous feast composed of rocks that look like food. It includes everything from a roasted chicken to baked potatoes to lemonade with fudgsicles for dessert. This exhibit has always been a big hit wherever it has been displayed, and this year it won a Best Special Display trophy. Four place settings of "food" can be seen daily on display in the Museum as *Today's Special* and many of the selections are on display in the children's section of the main Phoenix Public Library through December. Look for the *Hard Rock Supermarket* with "rock bottom prices." It will next be displayed at the Maricopa Lapidary Society's Gem and Mineral Show February 28 - March 2, 2003.

The Museum again sponsored two awards: Outstanding Project in Junior Division Minerals & Jewelry and in Adult Educational Exhibit Class. Congratulations to Nicole Langeland, who won for the juniors and Joanne Hesterman, who won in the adult class. Nicole displayed minerals and mineral carvings, and Joanne displayed a Quartz Family Tree. Both winners received a plaque and are invited to exhibit their display at the Museum for up to six months.

New Donation!

Check out the expanded *New Acquisitions* case! A local collector, John Weber has recently donated a great many beautiful mineral specimens that have been added to the Museum's permanent collection. The collection included world-wide as well as Arizona material. Thank you, John.

Arizona Mineral Production

Short tons unless otherwise noted

Commodity	2000 ¹ Quantity	2000 ¹ Value	2001 ⁵ Quantity	2001 ⁵ Value
Copper	1,024,000	\$1,810,000,000	965,000	\$1,470,000,000
Gemstones	na	2,920,000	na	2,670,000
Gold (troy oz)	w	w	w	w
Molybdenum (lb)	w	w	w	w
Sand & gravel				
Construction	65,477,000	304,000,000	62,391,000	294,000,000
Industrial	w	w	w	w
Silver (troy oz)	4,244,000	21,200,000	w	w
Stone, crushed	8,852,000 ⁶	48,200,000	7,716,000	43,300,000
Dimension stone ⁴	340,000	44,000,000	380,000	51,000,000
Gypsum ⁴	1,100,000	16,000,000	1,200,000	18,000,000
Other ²	na	315,100,000	na	345,900,000
Coal ³	13,111,000	315,000,000	13,418,000	322,032,000
Total		\$2,876,420,000		\$2,546,902,000

1 USGS data

2 Includes cement, clay, gypsum, molybdenum, perlite, salt, dimension stone, zeolites, and iron oxides

3 ADMMR estimate for value

4 ADMMR estimate for quantity and value

5 USGS preliminary figure

(W - withheld)

Bonding Deadline Approaches

Rules for small mining and "Notice Level" activity on BLM land changed on January 20, 2001. As of January 20, 2003 notice level activities will require reclamation bonds. Previously activities on mining claims disturbing 5 or fewer acres could be authorized without an approved plan of operations and without a reclamation bond. To the extent a notice level activity was previously approved, you must notify the BLM in writing and establish a financial guarantee in accordance with § 3809.300(a) and § 3809.503.

The regulations permit the BLM to grant extensions for up to two years. Until your financial guarantee is approved you may not conduct on-the-ground activities after January 20, 2003. Operators must take these actions on or before January 20, 2003 for each pre-2001 notice they wish to extend. The operator may modify their no-

tice at any time, but all modifications must meet the requirements of the January 2001 regulations.

Camp Verde Supports Mining

Voters in the Town of Camp Verde affirmed their desire to have mining continue within their town limits. Camp Verde voters, in a referendum vote, overruled a new town ordinance that would have so severely restricted mining within the town limits as to shut it down. The new ordinance was defeated by a vote of 1,140 to 444 and the sponsoring council member was also defeated for re-election. The anti-mining ordinance appears to have been primarily aimed at Phoenix Cement's Verde Gypsum mine and a new sand and gravel operation.



Do you need this information in an alternative format? Please call the Department at 602-255-3795.