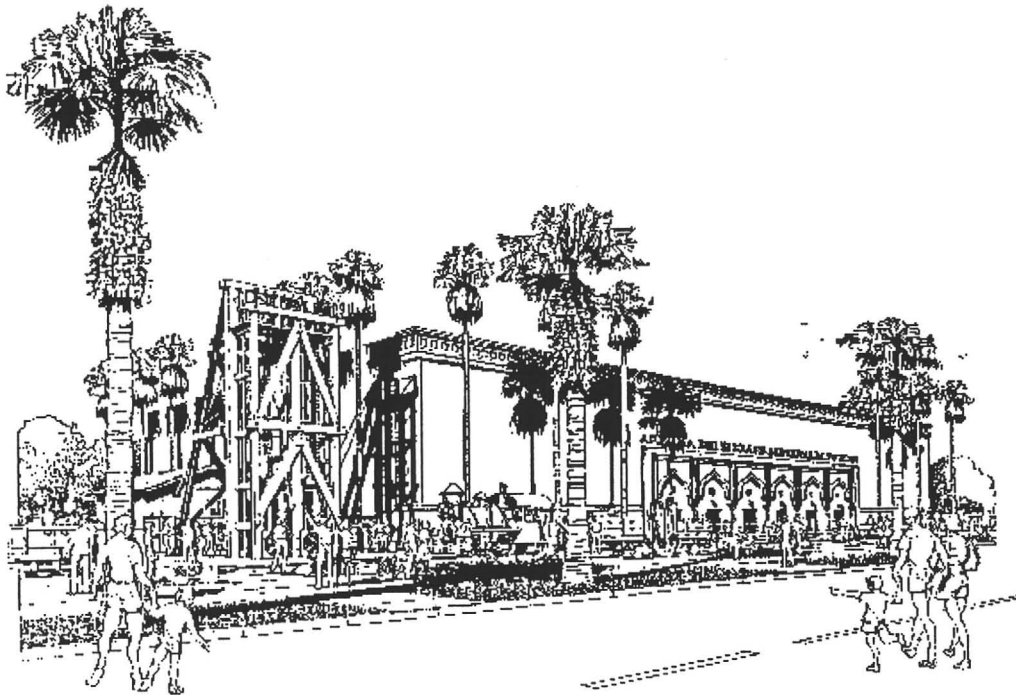


# DEPARTMENT OF MINES AND MINERAL RESOURCES

## 63<sup>rd</sup> ANNUAL REPORT FY 2001/2002

W. 'Doug' Sawyer  
Director



State of Arizona



Arizona Department of Mines and Mineral Resources  
1501 W. Washington  
Phoenix, Arizona 85007



## Arizona Department of Mines and Mineral Resources

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Toll Free in Arizona 1-800-446-4259 FAX (602) 255-3777

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Honorable Jane Dee Hull, Governor  
State of Arizona  
1700 West Washington  
Phoenix, Arizona 85007

August 14, 2002

Dear Governor Hull:

The Annual Report for the Arizona Department of Mines and Mineral Resources for the fiscal year 2001/2002 is herein submitted in compliance with A.R.S. Section 27-106.

Some of the high lights of this year include:

We obtained private funding for the painting of a mural on the outside of our building. This mural depicts a 320-ton haul truck that is supplied and maintained by a local employer. We also installed a display of the largest off-road mining tire. This tire is almost 13 feet in diameter and the display is located near the front of our building. We also installed an exhibit of a 17 cubic yard bucket. This bucket was used on a large shovel at an Arizona mine to load copper ore and waste for almost 20 years, before being donated to the ADMMR. The bucket is also located near the front of the building.

Our museum hosted school tours for about 20,000 Arizona school aged children and another 20,000 visited the museum and department. One of our tour guides instituted a program to visit remote Arizona schools to deliver a program on Arizona mining.

The current staff consists of eight FTE's funded by the general fund, five part-time employees (funded by profits from the Museum Gift Shop), and a dedicated group of volunteers provide quality service to the Department's customers and visitors. We also assisted the Arizona Mining Association as they educate teachers about the importance minerals in our society.

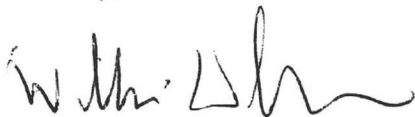
As we look to and prepare for the future, we believe that the major focus of our efforts will continue to be the dissemination of information about mining and mineral occurrences in Arizona as well as, the education of school-aged children about the importance of mining and how mining products are used in our everyday lives.

Even though the Arizona Copper mining industry is going through one of its periodic down cycles, Arizona mining still contributes over \$ 2 billion dollars annually to our economy. Due to continued construction of houses, roads and other infrastructure items, we foresee no end to the need for sand, aggregate, cement, decorative rock and other industrial minerals that are mined here in Arizona. In fact, the department has received a record number of requests for information from miners and producers regarding industrial minerals. Overall mining is healthy and will continue to grow in Arizona for the foreseeable future.

Governor Hull  
August 14, 2002  
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Should you have any questions or need additional information, please do not hesitate to contact me. I wish you the best in all your endeavors.

Sincerely,

A handwritten signature in dark ink, appearing to read "Willis D. Sawyer". The signature is fluid and cursive, with a long horizontal stroke at the end.

Willis D. "Doug" Sawyer  
Director ADMMR

# BOARD OF GOVERNORS

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## STAFF

**Willis D. (Doug) Sawyer**  
Director

Mineral Resources Information Center

Ken Phillips, Chief Engineer

Nyal Niemuth, Mining Engineer

Diane Bain, Public Information Officer

Ann Turney, Administrative Assistant

Tina Mendoza, Secretary

Arizona Mining & Mineral Museum

***Susan Celestian, Museum Curator***

Scott Poland, Education Curator

Liz Anderson, Tour Guide \*

Ann Baker, Tour Guide \*

Shirley Cote, Tour Guide\*

Joanne Hesterman, Tour Guide\*

Alice Rosenfeld, Tour Guide\*

\*Part Time, non appropriated fund



## **Dept. of Mines & Mineral Resources**

### **Agency Mission**

It is the mission of the Arizona Department of Mines and Mineral Resources (ADMMR) to promote the development of the mineral resources of the state through technical outreach and education. The purpose of this promotion is to encourage economic development in the mining and mineral resource industry. Our patrons or customers are the minerals industry, operators of small mines, prospectors, educators, the general public, elected officials and other state, local, and federal agencies.

### **Agency Description**

The ADMMR has three primary functions. The first function is to provide technical assistance to miners, exploration geologists, prospectors and others who are developing our state's mineral resources. This technical assistance includes studies of opportunities and problems facing small miners and investigation of their properties to assist in their development.

The second function is to maintain an information bank and library of mineral and mining information. The information consists of books, studies, maps, films and videotapes, individual mines files, and other archival documents.

The Third function is to manage the mineral museum as the state's depository for collecting, cataloging, and displaying mineral specimens, various ores, gemstones, and lapidary material

The Arizona Department of Mines and Mineral Resources is divided into two functional areas to fulfill the agency's statutory duties. These areas are the Mineral Resources Information Center and the Arizona Mining and Mineral Museum.

Inquiries from the public for information and assistance consume a large portion of staff time. The ADMMR technical staff provided information to 26,700 people during the last fiscal year. The Arizona Mining and Mineral Museum welcomed 36,500 general public visitors to the museum. In addition programs in the museum were provided to 18,930 students.

Public contacts are the primary process through which the objectives of the agency are carried out.

The ADMMR maintains a proactive role in encouraging the development of Arizona's mineral resources. ADMMR's advocacy roles include involvement with the Arizona Mining Association, Arizona Rock Products Association, AMIGOS, Arizona Association of Industries (member), State, county and local industrial development agencies and commissions and chambers of commerce throughout Arizona.

Public testimony is given at numerous regulatory hearings and community meetings for permits at current and planned Arizona mining operations.

Special interest earth science clubs and natural resource organizations' monthly meetings are hosted by the ADMMR. Such groups have membership's whose interests are parallel with ADMMR's duties to promote the development of the mineral resources of the state through outreach and education.

In addition, the Department assists mine developers planning new operations in Arizona by introducing them to legislators, business associations, industry lobbyists, appropriate consultants, and regulators.

The Agency represents Arizona mining at non-mining symposiums such as the Arizona Association of Industries Environmental Summit.

ADMMR responds with official letters and written statements of support for mine development, environmental impact statements, letters to editors. and anti-mining news items

**ADMMR**  
**Arizona Department of Mines and Mineral Resources**  
 1502 West Washington, Phoenix, AZ 85007 Phone (602) 255-3795  
 1-800-446-4259 in Arizona FAX (602) 255-3777 www.admmr.state.az.us

**Arizona Mining Preliminary Review for 2002**  
**Nyal Niemuth, Mining Engineer**

Arizona's mineral production fell in 2001 and estimates indicate it did so again in 2002. The value of non-fuel production was \$2.17 billion in 2001 and is estimated to be \$1.9 billion in 2002. Arizona's rank as a non-fuel mineral producer slipped from 3<sup>rd</sup> to 5<sup>th</sup>, the lowest in 18 years. A key factor in the decline was the deep cuts in copper production, made as companies struggled with continued losses. The sand and gravel sector remained strong, with production ranking 4<sup>th</sup> in the nation.

**Arizona Mineral Production<sup>1</sup>**

Short tons unless otherwise noted

<b>Commodity</b>	<b>2000 Quantity</b>	<b>2000 Value</b>	<b>2001<sup>5</sup> Quantity</b>	<b>2001<sup>5</sup> Value</b>
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	48,200,000	7,716,000	43,300,000
Dimension Stone <sup>4</sup>	340,000	44,000,000	380,000	51,000,000
Gypsum <sup>4</sup>	1,100,000	16,000,000	1,200,000	18,000,000
Other <sup>2</sup>	na	315,100,000	na	345,900,000
Coal <sup>3</sup>	13,111,000	315,000,000	13,418,000	322,032,000
<b>Total</b>		<b>\$2,876,420,000</b>		<b>\$2,546,902,000</b>

1. USGS data except as noted

2. Includes cement, clay, lime, gypsum, gold, molybdenum, perlite, salt, dimension stone, zeolites, and iron oxides. Includes silver in 2001.

3. ADMMR estimate for value

4. ADMMR estimate for quantity and value

5. preliminary data

**Copper**

Arizona continued to be the number one copper state, accounting for over 66 % of U.S. production. The US producer cathode price averaged \$.758 per pound - a fall of only 1.6% from 2001- owing to the cutbacks of producers responding to the continued weak copper market.

Losses continued for Arizona's copper producers in 2002. The economic loss to the state is huge. The estimated value of Arizona's 2002 copper production is \$1.26 billion dollars, a decline of \$210 million. The decline from the 1995 peak of \$3.5 billion is dramatic. Copper, during a period of high prices and record production, accounted for 80% of the state's mineral value then compared to an estimated 56%

Cont.

### US and Arizona Copper Production and Prices

Year	US (metric ton)	Arizona (metric ton)	Arizona (billion lbs)	Change	Price <sup>2</sup> cents/lb	Change
1998	1,860,000	1,190,000	2.600		78.6	
1999	1,600,000	1,050,000	2.314	-11%	75.9	-3.4%
2000	1,440,000	963,000	2.123	-8%	88.1	16.1%
2001	1,340,000	885,000	1.951	-8%	77.0	-12.6%
2002 <sup>1</sup>	1,130,000	756,000	1.667	-15%	75.8	-1.6%

Source: USGS production data

1. Arizona 2002 production data estimated based on the January thru November production rate.
2. Metals Week US Copper Cathode Producer

In midyear the US Department of Justice temporarily blocked the sale by Asarco of its 54% share of Southern Peru Copper Corp. (SPCC) stock due to concern about the company's financial ability to meet current and pending environmental obligations in the United States. The sale to Grupo Mexico's intermediary Americas Mining Corp. would strengthen Asarco's financial situation and allow it to complete a \$450 million financing originally due in November 2002. The deadline was extended by the lenders until early 2003 while talks between Asarco and the Dept. of Justice continued. In January 2003 an agreement was reached allowing Asarco to transfer its interest in SPCC, but required \$100 million to be placed in a trust to fund environmental cleanup in Arizona and other states.

Asarco's Ray mine has been mining high-grade areas of the pit, reported to average as much as 0.85% copper, to help cut costs and generate more income. The high-grade material contributed to a record 382 million pounds of copper being recovered, 30 million more pounds than in 2001. Although leach SX-EW production was down slightly from last years record level, copper recovered in concentrate from the 2 concentrators increased 16 percent to a record 290 million pounds. For a 2-month period at midyear, stripping activity was halted at Ray resulting in more employee layoffs. Asarco is also reported to be deferring maintenance and capital purchases to conserve cash.

Unlike Ray, the high cost Mission mine suffered cutbacks in production, operating at one third of mill capacity for the first half of the year. At midyear, stripping activity was halted at Mission and a possible closure was announced in the fall. The mine cutbacks have impacted the Hayden smelter and it is operating well below capacity. In late December Asarco announced it would further reduce production at Mission to 15% of capacity to about 50 million pounds annually rather than close the mine. Asarco sought a temporary 15% pay cut for employees, but workers rejected the proposal.

At Silver Bell Asarco has agreed to remove a pipeline, power line and road on federal lands now included in the boundaries of Ironwood National Monument. The 125-employee all leach operation produced 45 million pounds of copper in 2002.

BHP-Billiton announced it would permanently close the San Manuel open pit and underground mine facility in January of 2002. The mine's in-situ leach operation, producing about a million pounds a month via SX-EW, was also shut down. All underground equipment has been removed and the dewatering pumps have been turned off. Removal of surface equipment including the access and production headframes and hoists is proceeding and makes it quite likely the underground will never reopen. The underground mine, shut down since 1999, had hoisted a world record 700 million tons of ore during its operation. The San Manuel smelter, refinery, and rod plant continue to be on care and maintenance and remain for sale.

Recognizing the extensive leach technology and expertise within the company, BHP-Billiton has decided to conduct large scale testing at Pinto Valley. Permits were acquired to test low cost, enhanced

Recognizing the extensive leach technology and expertise within the company, BHP-Billiton has decided to conduct large scale testing at Pinto Valley. Permits were acquired to test low cost, enhanced bio leach recovery of copper from primary sulfide mineralization. If successful, the demonstration project could return the mine to production as a chalcopryite, mine for leach only facility.

Kennecott Exploration continued the deep drilling program on the Magma Porphyry, also called Resolution Copper. Though multiple drill rigs were on the property for much of the year, no results have been announced. The new discovery was described from prior work by BHP in an *Economic Geology* Vol. 97, No. 2 paper. Notable characteristics reported were large hypogene zones of pyrite – bornite - chalcocite with grades of 1.0 to 2.0 percent copper. The authors, Scott Manske and Alex Paul, characterized it as a giant copper system with its metal content greater than the 90<sup>th</sup> percentile of all known copper deposits. In a mineral terrain thought to be well understood, the deposit is a surprising and impressive discovery.

Phelps Dodge's Morenci mine achieved a significant increase in 2002. In the first full year of all leach operation 825 million pounds were recovered via SX-EW, an increase of 40 million pounds. Thirty five percent of production is coming from the high-grade crushed leach portion of the operation.

The Sierrita and Bagdad mines operated at half capacity during 2002. Phelps Dodge reported the production cut backs would last as long as market conditions dictate.

At Bagdad construction proceeded on a \$40 million concentrate pressure leach plant and EW expansion. Phelps Dodge has two new process technologies under consideration; a high temperature pressure oxidation that converts all S to sulfuric acid and a medium temperature pressure oxidation where S is converted to elemental S. The first method will be used at Bagdad where an 11-foot diameter by 50 feet long vessel will operate at 225 degrees C and 475 PSI pressure. The demonstration plant is anticipated to be complete in the second quarter of 2003 and will process 15% of concentrate output into cathode copper and provide sulfuric acid for conventional heap leaching at the mine.

The final EIS for the Safford leach project (Safford and San Juan deposits) is to be released in the second quarter of 2003 according to BLM officials. Forcing the delay was concern by the Bureau of Indian Affairs and the San Carlos Indians about possible impacts of ground water withdrawals. Predicted impacts were a ground water model's predicted 200 acre-feet over the 16-year mine life. Efforts for the Safford project began 8 years ago and such bureaucratic sluggishness contributes to the perception that the length of time required to obtain permits in the US is too long. The proposed project would produce 250 million pounds of copper annually and employ 250 people during its 16-year proposed mine life. Obtaining approval will not mean construction would automatically begin. Phelps Dodge said it would consider the copper market and compare costs to restarting mothballed capacity at other operations.



## Arizona Copper Production – 1997-2002

Cu (million lb.)

Mine, Company	2002	2001	2000	1999	1998	1997
Morenci, Phelps Dodge and Sumitomo	825.4	783.2	834	960	1,046	1,084
Ray, Asarco	382.1	352.5	304	318	335	304
Bagdad, PD (Cyprus pre 2000) <sup>2</sup>	168.0	257.2	247	211.2	215	246
Sierrita, PD (Cyprus pre 2000) <sup>2</sup>	152.4	241.8	245	204.5	226	246
Mission, Asarco	80.7	138.9	189	200	255	252
Silver Bell, Asarco and Mitsui	45.0	41.9	40	46	42	19
Miami, PD (Cyprus pre 2000) <sup>2</sup>	21.0	88.2	137	124.2	164	156
Pinto Valley, BHP <sup>1</sup>	25.1	32.0	38	na	37	157
San Manuel, BHP <sup>1</sup>	4.0	20.5	23	na	271	251
Mineral Park, Equatorial Mining	3.1	3.6	5.0	inc	inc	3
Tohono, PD (Cyprus pre 2000)	0	0	0	0	8	27
Other	na	na	na	na	6	2
<b>Total</b>	<b>1,706.8</b>	<b>1,959.8</b>	<b>2,062</b>	<b>~2,300</b>	<b>2,605.4</b>	<b>2,747</b>

Data from company annual reports, form 10-ks, etc.

na - not available inc. – included with other

1. June 1, - May 31, annual basis for 1997 and 1998

2. Production data for Oct. 1-15, 1999 is unreported.

### Gold and Uranium

American Bonanza was able to raise funds for exploration at Copperstone in western Arizona. Late in the year work was underway to extend an adit to allow underground drilling of the “D zone.” at the past open pit producer Rising gold prices resulted in increased interest among junior companies who announced property acquisitions or had work programs underway in a number of districts across the state.

Low prices have discouraged mining and exploration at uranium mineralized breccia pipes on the Colorado Plateau for a number of years. Taiwan Power and RME Holding Company placed their mineral holdings for sale. Included were the Sage, Wate, and SBF pipes with proven and potential reserves containing 10 million pounds of U<sub>3</sub>O<sub>8</sub> in material grading 0.67% to 0.83%. A fourth pipe also contains drill-indicated high-grade mineralization. Unfortunately, there has been little interest, and some portions of the lands have been relinquished.

### Industrial Minerals

In midyear, Australian-based CSR Group’s subsidiary Rinker Materials Corporation acquired Kiewit Materials Company for \$540 million. About 80% of Kiewit’s operations are in Arizona. These include sand and gravel quarries and asphalt and concrete operations statewide that operated under the names United Metro Materials, Tanner Companies, and San Xavier Rock and Materials. Kiewit was the Nation’s 16<sup>th</sup> largest aggregate producer. Its aggregate reserves total over 800 million tons, or about a 30 year reserve life. The acquisition makes Rinker the fifth largest aggregate producer and the second largest premix concrete producer in the United States. The five largest producers now control about 25% of the nations aggregate market.

In the first quarter of 2002, British Plaster Board, the world's largest manufacturer of gypsum wallboard, bought the three-wallboard plants owned by James Hardie Industries and their Western Mining and Minerals gypsum mine near Littlefield Arizona south of St. George, Utah. Current gypsum production at Western Mining and Minerals is reported to be 700,000 tons per year. This is more than the combined total of the Arizona's five other producers. Western Mining and Minerals reports plans to double capacity to 1,400,000 tons per year by the end of 2004. Essentially 100 percent of Western's production is consumed outside of Arizona for wallboard manufacture and Portland cement production in the Las Vegas area.

Growth in the dimension stone mining segment continues. Seventeen companies are active; cut sandstone and split flagstone are the predominate products. Although reported production data is limited, employment totals 690 workers. ADMMR estimates sandstone-flagstone annual production at 380,000 tons per year with an estimated mine value of \$51,400,000. New producers include Mortimer Stone, Hammond Wholesale Stone, Horner Stone, Howard Grey Stone, Silver Arrow Stone Company, and Stone World.

Alpha Calcit Arizona Limited has submitted a Mining Plan of Operations (MPO) to the Coronado National Forest to mine calcium carbonate at the rate of 100,000 tons per year from the Alpha Calcit Marble Mine at the north end of the Dragoon Mountains. The Coronado National Forest has begun the NEPA process and projects release of the draft EIS by December 2003 and the final EIS by March 2004. Alpha Calcit plans to supply special additives to the paper and plastics industries.

#### **Government News**

The Aggregate Mining Community Notice Act became Arizona law, potentially affecting certain new or major modifications to existing aggregate operations in counties with more than 2 million residents (only Maricopa County at present). Upon petition by at least 100 residents who reside within one-half mile of an existing aggregate mining operation the board of supervisors shall designate and establish the boundaries of an aggregate mining operations zoning district. In addition, the board of supervisors may establish districts on initiative of the board. Within these districts, the act requires operators to file a community notice with the State Mine Inspector and with residents within a half-mile of the operation and establishes committees to mediate disputes between the public and operators.

Decried by many was the establishment by former President Clinton of numerous national monuments in the western states. They sometimes appeared to target mineralized areas and Arizona suffered the loss of 2 million acres of multiple use lands. The US District Court of Appeals for the District of Columbia affirmed lower court rulings that had dismissed challenges to the constitutionality of their creation. The Mountain States Legal Foundation planned an appeal to the Supreme Court.

The Arizona Dept. of Mines and Mineral Resources is acquiring data at a high rate, quite counter cyclical to present exploration trends. The donation last year by Walt Heinrichs of GEOEXploration Company's geophysical data, maps and mine files was the largest ever received by the department. Cataloguing efforts continue prior to public release of the data.

## Director's Activity Report First Quarter FY 02

**Copper Competition:** The ADMMR has proposed to both Phelps Dodge and the AMA to assist in a K-12, statewide "Copper Competition". As proposed, the competition would be open to Arizona school-aged children and be designed around using copper, copper-products, or copper by-products in the following areas:

- a. Copper in the Home
- b. Copper in Science/Industry
- c. Copper in Art
- d. Copper in Essay

A group that included teachers and AMA staff met in September 2000 to discuss the Copper Competition. The group had a number of helpful recommendations to the original proposal. These suggestions included more details, a proposed budget, a scaled down "pilot" competition, and a focus group of educators to help identify the necessary details.

The department and AMA held a focus group meeting on Saturday February 17, 2001 to act upon the recommendations and finalize the concept proposal. The focus group consisted of two department representatives, three teachers familiar with the AMA minerals education outreach and Gail Lichtenhan from the AMA. The results of the focus group were a revised proposal to partner with the AMA on a pilot competition to be held during the Fall 2001 school year.

Update: Recent discussions with AMA representatives revealed that the proposal is still under consideration; however, due to low copper prices and organizational uncertainty within the member companies, the Copper Competition is still under consideration.

**2) Museum Advisory Committee:** The Museum Advisory Committee, consisting of Sue Celestian, Ken Phillips, Scott Poland and Doug Sawyer, was invited to partake in the AMA's June 24th through June 30<sup>th</sup> Level II training entitled "Prospect to Production". The training was held in Marana, Arizona and consisted of the philosophy and mechanics of developing an educational curriculum. Our team used the training as a team building exercise and to begin formalizing a comprehensive museum interpretive plan.

The results of our initial work may be found in the document entitled: "2001 Draft of Interpretive Master Plan for the Arizona Mining and Mineral Museum." We envision that this draft will be a "living document" that will be modified to accommodate new exhibits and displays.

In addition to the four department members who partook in the Level II training, Glenn Miller, former Museum Curator joined our team and helped guide us through the concepts and mechanics of the training. Mr. Miller has graciously offered "pro bono" services to the team where he will collate and summarize his previous efforts in the area of museum planning and educational outreach.

Five museum projects have been identified:

1. Display Cases
2. Copper Corner
3. Stope
4. Arizona Map

## 5. House of Minerals

We are currently working with APS to make signs for the Boras Head Frame and locomotive. The signs will be laser-etched, anodized aluminum and mounded on a post. Charlie Connell is coordinating the effort with the Palo Verde Nuclear Plant's sign shop. These signs will be delivered by the end of the month.

We are also working with Purcell Tires to obtain an off-road tire and shovel bucket for display near the front of the building. Purcell's has located a tire in southern Arizona. Charlie Connell and Ken Phillips are working to arrange for transportation to the building and to design/build a stand to display the tire.

Work has begun on the house of minerals. Ken Phillips is coordinating this effort with the U of A Mining and Geological Engineering Department. We hope to partner with a public utility, ARPA, AMA, mineral suppliers and others to create a "home" that displays all the minerals that are used to make our lives livable.

3) **Department Budget:** The ADMMR bi-annual budget for FY 2002/2003 has been approved. Attached is a copy of the budget. As in the past, approximately one-half of the budget is consumed by rent/building associated expenses. We did receive a line item for the installation of a building wide paging system to provide for non-emergency communications.

4) **New Staff:** We are pleased to welcome our new Education Curator, Scott Poland, to the department. Scott brings a wealth of marketing talent and energy to the department as we try to develop new displays and increase our mining and minerals promotional and educational activities. Scott has a BA and MBA and has worked for in publishing and for non-profits. The Board can expect a call from Scott in the near future, as we need your assistance in a number of areas.

5.) **Fox 10 Morning Show:** The Mining and Mineral Museum was featured on the Fox 10 morning show last Monday July 16<sup>th</sup>. The show features a roving telecast crew and meteorologist who visit a site, interview staff and provide a weather forecast. The ADMMR staff and an army of volunteers arrived on site at 6:30 AM to open the building, set up lapidary displays, and prepare to welcome the Fox 10 crew. They arrived about 7:30 and over the next 90 minutes; they broadcast 7 or 8 times from the museum including four interviews with the director and curator. The staff and volunteers did a fabulous job of presenting the best of what the museum has to offer and deserve a hearty thank you and a job well done.

**Volunteer Classification:** Based on discussions with Risk Management, volunteers are considered State employees as far as liability is concerned. A question was raised regarding volunteers' ability to drive state owned vehicles while performing volunteer activities associated with the department.

According to Risk Management, even though volunteers are not paid, get no benefits, and are not covered by workmen's compensation, they are covered by the State's liability insurance coverage. That is to say that if they are involved in an automobile accident while driving a state vehicle, the state will cover damages to the other party, but not the volunteer. The department is assessing its safety requirements with regard to volunteer efforts in the shop and outside exhibits. Attached is a copy of a memorandum summarizing the discussions with Risk Management.



**ACTIVITIES AND CURRENT EVENTS FROM THE ADMMR MINING AND MINERAL RESOURCE  
INFORMATION, PROMOTION AND DEVELOPMENT PROGRAM  
1ST QUARTER, 2001-2002**

**COPPER PRICE CLOSED AT 67.00¢ PER POUND MONDAY.**

- Copper - 67.0 cents per lb.; cathode - full plate, U.S. destinations, October 15, 2001.
- Copper - 63.65 cents per lb., N.Y. Mercantile, spot, 3:22 p.m., Monday October 15, 2001.
- The cathode price is 7 cents lower than price quoted for July 17, 2001 reported at the last Board of Governors' meeting.

**PARTIAL UPDATE OF THE USGS MRDS DATABASE**

- ADMMR is continuing to dialog with scientists from the USGS to assemble a proposal for the Dept. to update 118 "significant metal deposits" for a partial update of the USGS's MRDS database. Financing and in-kind contributions by the ADMMR have been discussed but because of other priorities and budget constraints at the USGS there have been has not been any further progress on beginning a joint project. Historical and production data are the most important concerns to the USGS at this time.

**MINERAL INFORMATION CENTER STAFF TIME AND ACTIVITIES**

**Information Collection and Dissemination**

Over 65% of the technical staffs' time in the last quarter has been spent collecting, processing, and disseminating mining and mineral resource information. A large amount of donated library and individual mineral property data has been received over the last quarter and it is carefully being reviewed, cataloged, and referenced into the database. The current backlog is 9 to 14 months. The donated information is not made available to the public until cataloging is completed. Volunteers are solicited to assist with the cataloging and interested volunteers are allowed to review information as they assist in completing the catalog. Cataloging of the Cambior files donation continued with the assistance of volunteers Dan Laux and Fred Bauman.

**Assistance**

Provided information or assistance to many state agencies and companies including:

- US Geological Survey Hydrology Section
- J C Rock - *landscape rocks, garnets*
- H & H Abrasives - *garnets*
- EPA
- EPA consultants - *historic mining impacts*
- BHP - *copper*
- Murphy Landscaping - *quartz boulders, rip-rap*
- BLM - *permitting compendium, claim validity, mining law*
- AzDEQ - *permitting compendium, ground water permit exemptions*
- AZ Land Dept. - *metallurgy, assaying methods, technical experts, questionable activities*
- ACC - Security Division - *questionable mine development activity*
- US Forest Service - *mineral markets, mining claim validity, commodities usage, market size*
- ADOT consultant - *resource values, right-of-way impacts, aggregate availability*
- Falconbridge - *questionable mine promotion activity*

- Hecla – *questionable mine promotion activity*
- University of Texas
- IRS – *questionable mine promotion activity*
- Nevada Bureau of Mines and Geology
- Auric Resources Intl. – *historic mine and geology data*
- State of Washington, Dept. of Geology and Mineral Resources – *aggregate industry statistics*
- Arizona Dept. of Commerce – *meteorites, dimension stone, mined commodity availability information; mine development potential*
- Basin Perlite – *prospects for new mine development*
- Sterling Bridge Cement – *limestone reserves and markets*
- The Copper Dome (Arizona state employee's newspaper) – *museum activities*
- Superior Marble – *analytical methods and consumer market requirements*
- Asarco – *statistical information, directory information*
- Dept. of Administration State phone directory – *Museum ad page development*
- Oglebay Norton – *new mine development possibilities*
- Omya Arizona – *mineral usage and customer information*
- Coconino Cinders and Materials - *cinder usage*
- United Metro – *landscape materials development opportunities*
- San Angelo Feeding Company – *diatomite commodity availability*
- J.R. Simplot – *iron oxide commodity availability*
- Joel Duffield and Steve Irwin L.L.C. – *prospect and mine development opportunities*
- Mineral Hill Mine – *possible investors and developers of pigments*
- Applied Chemical Magnesia – *brucite markets, custom milling opportunities*
- Murco Wall Products – *mineral transportation costs, industrial mineral markets*

#### **Mining and Mineral Museum Assistance**

- Publishing directories
- Reviewing display text
- Assisting in display content planning
- Assisting in display construction
- Providing outreach displays and programs
- Assisting in volunteer work

#### **NEW PUBLICATIONS**

- 2-Land Status
- 3-Platinum in Arizona
- 4-Barite
- 9-Titanium
- 10-Services and Help
- 36-1991 Recordation changes
- 56-Assessment Work Requirements.
- 94-2001-2002 Mineral Shows

#### **SUSPICIOUS MINING ACTIVITIES**

- Data is being gathered and organized to use as evidence for the filing of complaints against two Arizona registered assayers. Both assayers have been instrumental in the questionable activities of a number of promotions.

## COMPUTERS, WEBSITE, ETC.

- A number of published circulars have been edited and posted to the ADMMR website
- Posted the museum brochure as a PDF file in a quick loading screen resolution format.
- Revised 6 existing web pages with corrections, link fixes or additions.
- Acquired a digital version of the Mining Summit and started converting it to HTML Frames document as well as PDF format. Project was halted after learning of a new document being created by AZ Mine Inspector Office.
- A test digital version of USGS Bulletin 782, Geology and Mineral Deposits of The Jerome and Bradshaw Mtns. Quadrangles was created at no charge by Techniprint (Scanned TIF's in PDF) for possible future sales and demonstration as a library archive technique.
- Prepared and submitted an ADMMR Information Technology Plan in compliance with state statute for GITA.
- Completed Information Technology inventory and vulnerability assessment for GITA.

## NEWS/TRIVIA

- There are currently 29,000 active federal mining claims in Arizona
- ADEQ has created a binding determination of applicability form for the general APP permit
- Asarco's new corporate office is now in Phoenix at 2575 East Camelback Road, Suite 500.

**Director's Activity Report**  
**Second Quarter FY 02**  
**October 17, 2001**

1) **Strategic Plan:** The department prepared a strategic plan in conjunction with the OSPB Budget Analyst. The main change between this and previous strategic plans is that we no longer identify the museum functions as separate from mine information functions. For instance, in previous strategic plans we identified separate attendance goal for the museum and a separate customer goal for the mine information department. With this strategic plan we are simply identifying a goal to increase customers for the entire department. We have also identified a customer satisfaction numeric goal as opposed to a previous customer percentage.

2) **Copper Competition:** Recent discussions with AMA representatives revealed that the proposal is still under consideration; however, due to low copper prices and organizational uncertainty within the member companies, the Copper Competition is on indefinite hold.

3) **Museum Plan Implementation:** The Museum Advisory Committee, consisting of Sue Celestian, Ken Phillips, Scott Poland and Doug Sawyer, participated in the AMA's June 24th through June 30<sup>th</sup> Level II training entitled "Prospect to Production". The training was held in Marana, Arizona and consisted of the philosophy and mechanics of developing an educational curriculum. Our team used the training as a team building exercise and to begin formalizing a comprehensive museum interpretive plan.

A number of items identified in the plan have been implemented. The first is the window into the lapidary shop. Visitors to the department can now view the lapidary shop area without entering the shop. Plans also include moving lapidary displays closer to the shop.

A large off-road tire has been donated to the department through the efforts of Purcell Tire, Phelps Dodge and Arizona Public Service. Plans call for the tire to be displayed near the front entrance to the department.

On Monday, October 15<sup>th</sup>, representatives of the department visited the Ray Mine to check into the possibility of obtaining a shovel bucket for display with the tire. Three buckets were identified as possible candidates for donation. Staff and volunteers are assessing which of the 3 are best suited to our needs. Both the tire and bucket could be used to contrast historic mining, i.e. the Boras Headframe and locomotive with modern open pit operations. The tire and bucket would also provide photo opportunities for department visitors.

The House of Minerals continues to take shape. The department has contracted with a graphic artist to complete a rendition of the house to be used for marketing and fund raising opportunities. The rendition should be available by the end of the month.

The Copper Corner is project is proceeding as planned. This project is expected to focus on copper minerals, copper mining, and copper end products so that visitors will make the connection between pretty minerals and everyday products that they use. Already several cases have been moved into copper corner. The next step is to begin removing the square set stope and moving additional cases from the main floor to the corner. A graphic arts student is preparing an artist's rendition for marketing and fund raising purposes.

4) **Arizona Rock Products Association (ARPA):** The lobbyist and executive director for ARPA have both resigned and are pursuing other opportunities. The new executive director is Rusty Bowers, former district 6 State Senator. Several informal meeting have been held with Mr. Bowers and he has expressed interest in working with the department to promote mining and natural resource development by their members. Reportedly, APRA and the AMA are investigating areas of common interest and cause where they might be able to collaborate.

5) **Tonopah Belmont Mine Closure:** The Mine Inspector held a media event on October 16<sup>th</sup> to celebrate the closure of the Tonopah Belmont Mine in west central Maricopa County. Media representatives did not attend the event. The Tonopah Belmont was a lead, copper, gold mine that was discovered approximately 100 years ago. Approximately 6,000,000 pounds of lead, 700,000 pounds of copper, \$ 210,000 of gold and \$ 120,000 in silver were removed from this mine in the late 1920's. The mine closed during the depression and was operated sporadically over the next 30 years. During the last 30 years, the mine has been the subject of numerous exploration efforts.

#### ACTIVITIES AND CURRENT EVENTS FROM THE ADMMR MINING AND MINERAL RESOURCE INFORMATION, PROMOTION AND DEVELOPMENT PROGRAM

##### 2ND QUARTER, 2001-2002 October 2001

##### **Copper Price Closed at 74.00¢ Per Pound Monday.**

- Copper - 74.0 cents per lb.; cathode - full plate, U.S. destinations, January 9, 2002.
- Copper - 71.05 cents per lb., N.Y. Mercantile, spot, 3:34 p.m., Wednesday January 9, 2002.
- The cathode price is 7 cents higher than price quoted for October 15, 2001 reported at the last Board of Governors' meeting.

##### **Copper Consumption in Residential Construction Grows**

- Data indicates that total usage of copper in the US in 2000 grew nearly 1% despite slowing of the economy. US domestic per capita consumption of copper now stands at about 33 pounds per year. Copper consumption has risen over 40% in the period 1992 - 2000, an average annual compounded growth of 4.5%. Growth has been especially high in the wire and cable sector and accounts for almost half of the copper used in the US. Supporting that long-term strength, in part, is the continuing growth in residential power consumption, now up nine-fold compared with the 1950s. More to the point, consumption per home increased more than four-fold over the same period, but wiring systems in many residences haven't kept up with the increased loads they now carry. Safety isn't a strong issue yet, but homebuyers are demanding more convenience in the form of more outlets and more robust circuits. Proposals submitted to the National Electrical Code(r) would increase the minimum wire size in 15-amp residential circuits from AWG 14 to AWG 12. It may take some time before the recommended code changes are adopted, but they could create a 60 percent increase in the amount of copper now used in 15-amp circuits.
- Telecommunications wiring was aided by a US Federal Communications Commission (FCC) ruling that requires a much higher standard of wiring for new installations. Copper is still the top choice over fiber optical cable for internal building communications and local area computer networks because of its ease of installation and reliability. The new FCC rules will likely translate into an additional 9,900 tons of annual copper consumption in the US.

#### **Copper Data**

- The last 25 years of copper production data by individual mines and Metallic Mineral districts was compiled. Part of this data compilation was done at the request of the Arizona Geological Survey. Graphs of the data are attached to this report.

#### **Copper Prices and Production Cutbacks**

##### **Imerys to Raise Prices of Performance Minerals Ground Calcium Carbonate Products**

- Although construction and the economy have slowed there is still sufficient optimism to allow one of the world's major industrial mineral mining companies to raise prices. On December 19, 2001 Imerys Pigments and Additives Group formerly Georgia Marble Company announced that prices of its North American ground calcium carbonate (GCC) products will increase effective February 1, 2002. The magnitude of the increase will vary by product, with increases ranging between three and eight percent in most cases. They stated the increase is necessary to offset the mounting costs of labor and benefits, chemicals and environmental compliance. They are the world's leading producer of white industrial minerals for the paper, ceramics, coatings, polymer and other manufacturing industries. Imerys operates the Santa Rita calcium carbonate mine south of Tucson.

#### **NEW PUBLICATIONS**

- Circular 89, Directory of Federal Agencies of Interest to Mining
- Volume 29, Arizona Mineral Resource (ADMMR Newsletter)

#### **Suspicious Mining Activities**

#### **Xenolix Technologies**

- As required by our statutes the ADMMR provided considerable technological assistance to the securities attorneys at the Arizona Corporation Commission. And during the week of December 17, 2001 the Arizona Corporation Commission ordered Xenolix Technologies, Inc., a mining company, and its geologist, Alvin Charles Johnson, Jr., of Tempe, to cease and desist from violating the Arizona Securities Act. Even more significantly, the Commission also ordered the company to offer refunds to any investors who would like to redeem their shares. Further all future Xenolix Technologies news releases must carry a statement that the Arizona Corporation Commission, Securities Division disputes the company's proprietary technologies for recovering gold and platinum group metal from volcanic cinders and coal fly ash. There were approximately 100 investors who invested about \$1.7 million in three different offerings. The exact text that must be included in all of Xenolix's releases is:

**"There is no assurance that the company's proprietary technology or the patents it holds will be commercially successful or any assurance if they are, that the company will be able to exploit them.**

**The Arizona Corporation Commission, Securities Division, based upon experts from Arizona State agencies, the U.S. Bureau of Land Management and other federal agencies, disputes the company's proprietary technologies, and its purported assaying technology.**

**The Corporation Commission, Securities Division, using the same experts, also disputes the presence in Arizona, of deposits of economic grade primary platinum group metals."**



## Cooperation With Arizona Board of Technical Registration

- Information was gathered on behalf of the Arizona Board of Technical Registration regarding two registered assayers, one of which has had a long-standing reputation of reporting platinum group metal values that can't be repeated by other laboratories.

### Carlotta Copper Mine No Longer For Sale

- Bob Walsh reported Cambior's Carlota copper mine is no longer for sale. The company hopes to reacquire the last EPA NPDES permit in early 2002 and then seek financing to construct the open pit heap leach project

### Computers, Website, etc.

- The Arizona Department of mines and Mineral Resources continues to be a growing source of information for many of the agency's public. In the last quarter some part of the ADMMR website has been accessed of 37,000 times.
- Nyal Niemuth continues to lead the ADMMR's work in maintaining the website. In the last quarter 10 WebPages were updated.
- A table and graph shows the ADMMR website usage monthly

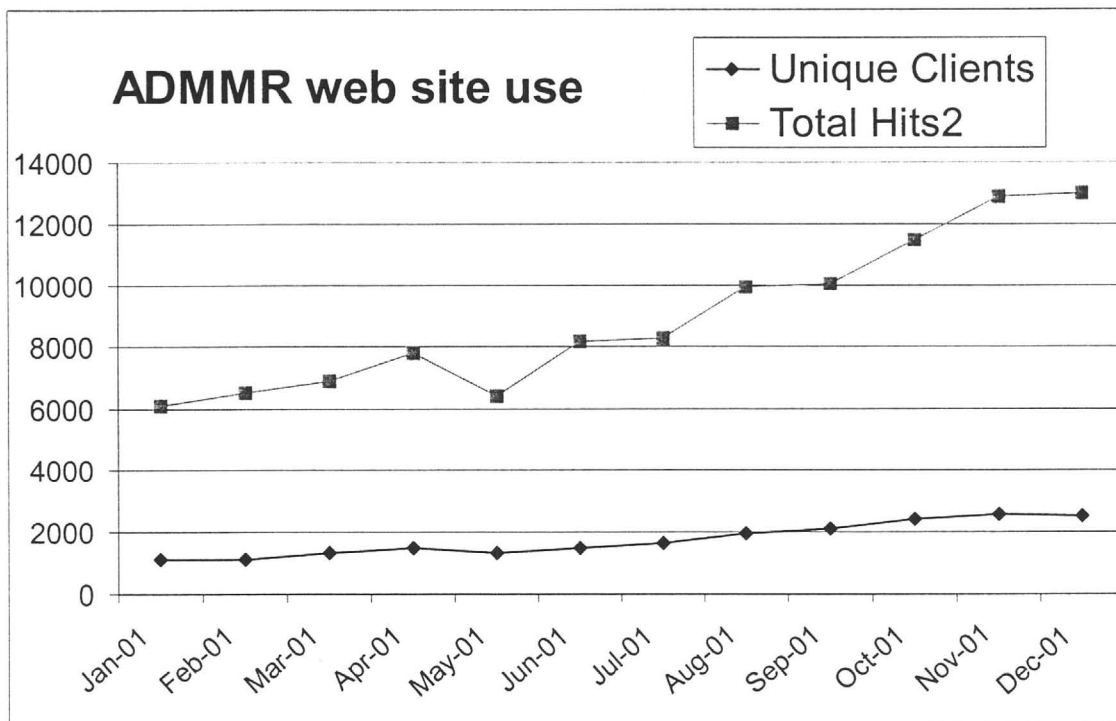
## ADMMR Website Statistics

Date	Unique Clients	Total Hits <sup>2</sup>	Unique URL's "pages" hosted <sup>1</sup>	Comments
Jan-01	1086	6128	58	
Feb-01	1107	6514	71	
Mar-01	1297	6884	57	
Apr-01	1462	7804	120	High # of URL's
May-01	1288	6436	95	More hits, fewer unique visitors? Does this indicate return visitors or more hits by same visitor?
Jun-01	1455	8126	72	
Jul-01	1606	8230	83	
Aug-01	1939	9922	83	Total Hits excludes ~700 hits from IBM indexing site for the AZ portal
Sep-01	2078	10050	99	Total Hits excludes 3904 errant file requests
Oct-01	2425	11510	117	High # of URL's , Total hits excludes 849 "404's"
Nov-01	2539	12898	105	
Dec-01	2505	12998	113	
Total (2)	20787	107500	na	

1) High # of URL's hosted indicates lots of updating and testing and will exceed total site "pages" reflecting revised editions.

2) Corrected total subtracting DOA server hits, etc.

3) may include duplicate users across months



#### Mineral Information Series

*Mineral Information Series* was chosen as an interim title for a group of proposed, general interest publication. The final choice of a series name may be less restrictive, such as Public Information Series. These are fact sheets that address frequently asked questions in some detail.

The first two topics, MIS 1 *Copper in Arizona*, and MIS2, *Gold in Arizona* approach completion. They will become a new section of ADMMR's website. Others titles will be added over the next quarter as time allows. MIS3, *Arizona Mining Facts* will be next in the queue. Design of a unifying style and format of the new series is under construction. For the website frames or similar navigation style may be used because of the length of some of the publications.

The information, especially compiled and written for this format, is intended to educate the general public on the importance of mining and to provide accurate information on Arizona minerals. The series is not of a technical nature. None-the-less, facts and figures have to be checked and rechecked since the Department is held as the authority on mining and minerals in Arizona.

Another task is locating appropriate eye-catching images and then putting them into a format that can be quickly loaded but retain definition and punch. ADMMR's photo archive is predominately black and white for historical and for publication reasons. Using some images that the Department already has, taking photographs especially for this publication, and requesting permission from other organizations for use has resulted in some stunning graphics.

#### Copper in Arizona Outline

(The printed version would have to be broken into segments. Graphics assembled so far can be viewed at I: Pubs/Information Series/graphics for cu.doc)

##### ☐ Introduction (Photo of open pit, photo of a native copper)

- ☐ Arizona Copper (Photo of tank house)
- ☐ Current Production in Arizona (Table of mine production, Photo of Morenci, Ray, Bagdad, Mission)
- ☐ Arizona Resources and Deposits



- ☐ Occurrence in Arizona (Photo of killer azurite/malachite)
- ☐ Mining and Processing (Photo of underground mine)
- ☐ History of Arizona Production (B and w historic photo, Haul truck photo, Modern mine photo)
- ☐ Copper Facts (Woodcut from De Re Metallica)
- ☐ Physical Properties of Copper
- ☐ Specific Properties of Copper
- ☐ Uses of Copper (Photo of AZ capitol dome, Photo of copper penny, Photo of electrical components)
- ☐ Copper Alloys (Photo of bronze statue)
- ☐ Glossary

### **Gold in Arizona Outline**

(graphics for this series can be viewed at I: Pubs/Information Series/ graphics for au.doc)

- ☐ Introduction (Image of gold bullion)
- ☐ Occurrence in Arizona, (Photo of nugget)
- ☐ History of Arizona Production, (B and w of dredge on Lynx Creek, Photo of gold in quartz)
- ☐ Scams, (Caricature of mine promoter?)
- ☐ Gold Facts
- ☐ Uses of Gold, (Photo of gold coins)
- ☐ Measurement of Gold
- ☐ Glossary

### **Physical and Administrative**

- The DOA/GITA's disaster recovery canvas form was completed, and a brief summary of ADMMR critical resources with estimate of information technology hardware and software and our telephone and fax machine replacement costs was prepared.
- Two trips to Walt Heinrichs in Tucson to get two full stake bed truck loads of filing cabinet with data, file boxes, and one cargo van full of boxes and maps tubes.
- Review 5 banker boxes of mine files of Janice Coggin for "original" reports and other data from Mason Coggin and included it into existing ADMMR mine files.
- Picked up one full stake bed and one pickup load of bookshelves, file cabinets, desks, chairs, tables, etc. donated through the Telephone Pioneers from Avaya's offices on Central Avenue in Phoenix.
- Designed and installed an exhibit in the Gems and Minerals section of the State Fair.
- Began "rough construction of the new House of Minerals museum exhibit.

**Director's Activity Report  
Third Quarter FY 02  
January 16, 2002**

1) **Budget Plan:** The department has prepared a summary of the year-to-date budget and projected needs through the end of fiscal year 2001-2002. Our original budget has been reduced by approximately \$34,500 based on the revised budget that resulted from the last special session (December 2001). You may recall that our budget is approximately 48 % rent, 49 % personnel services (payroll) and the remaining 3 percent is insurance, travel, and operations. As of 1/1/2002, we are at the mid point of the fiscal year, but approximately 75 % though the budget. The percent of budget expended always leads the fiscal year because the rent is paid on July 1 (i.e., the first day of the fiscal year we expend 48 % of the budget). Based on the best estimates, we project a shortfall of approximately \$9,600. We are investigating several options to remain at full staff and stay within the 2001-2002 budget. Attached is a copy of the summary.

- 2) **Legislative Governmental Mall Commission:** The ADMMR has been proceeding with plans to add to the outside exhibits. Based on our mission to communicate the importance of mining to our visitors and patrons, we acquired a large off-road tire and shovel bucket from Phelps Dodge and ASARCO (respectively). We contacted "Blue Stake" to obtain a buried underground utilities clearance before digging a foundation for the off-road tire. The ADOA Building Services Division informed us that they (ADOA) had no record of approvals from the Legislative Governmental Mall Commission (LGMC) for these proposed outside exhibits. Since that time, we have talked with LGMC and been placed on the agenda for the January 16, 2002 meeting. We requested that the meeting be held at the ADMMR so that if needed, we could walk around the facilities and answer any questions raised by the Commission
- 3) . The Board is invited to attend the 3:30 PM meeting if so desired. Attached is a copy of the presentation that we will present this afternoon.

3) **Museum Plan Implementation:** The Museum Advisory Committee, consisting of Sue Celestian, Ken Phillips, Scott Poland and Doug Sawyer, participated in the AMA's June 24th through June 30<sup>th</sup> Level II training entitled "Prospect to Production". The training was held in Marana, Arizona and consisted of the philosophy and mechanics of developing an educational curriculum. Our team used the training as a team building exercise and to begin formalizing a comprehensive museum interpretive plan.

A number of items identified in the plan have been implemented. The first is the window into the lapidary shop. Visitors to the department can now view the lapidary shop area without entering the shop. Plans also include moving lapidary displays closer to the shop.

The House of Minerals continues to take shape. The department has contracted with a graphic artist to complete a rendition of the house to be used for marketing and fund raising opportunities. The rendition has been completed and is available for review. The ADMMR is trying to partner with mines, suppliers and others to provide additional funding for hardware, software, materials, etc. that will complete the display. We are preparing a document that will be sent to prospective donors. A copy will be provided to the Board when it is completed.

The Copper Corner is project is proceeding as planned. This project is expected to focus on copper minerals, copper mining, and copper end products so that visitors will make the connection between

pretty minerals and everyday products that they use. Already several cases have been moved into copper corner and the square set has been removed. A graphic arts student is prepared an artist's rendering that was based on the ADMMR's conceptual design. The artists rendering is available for review.

4) **Schaffer & Associates:** Ed Schaffer with Schaffer & Associates has submitted a proposal to disseminate ADMMR information to Arizona schools as part of their state contract. Mr. Schaffer prepared a sample letter that is attached for your review. The proposal is to provide the service at no cost to the ADMMR. I recommend we discuss the merits of this proposal and proceed.

**ACTIVITIES AND CURRENT EVENTS FROM THE ADMMR MINING AND MINERAL RESOURCE  
INFORMATION, PROMOTION AND DEVELOPMENT PROGRAM  
3RD QUARTER, 2001-2002**

**Copper Price at 72.50¢ Per Pound this morning**

- Copper – 72.50 cents per lb.; LME cathode, 9:30 a.m. (EST) April 5, 2002
- The cathode price is 1.50 cents lower than price quoted for January 7, 2002 reported at the last Board of Governors' meeting.

**Copper Inquiries at ADMMR May Be Early Indication of Market Bottom**

- Although the term bottom feeding might be a little derogatory, it may be the beginning of a bit of good news for Arizona's copper industry. Over the last few months we have seen an increase in inquiries about availability of cheap Arizona copper reserves and have had a number of discussions regarding possible copper deposit development opportunities. The world copper industry has seen some stabilization of prices in the last quarter. Unfortunately there continue to be large stocks of copper in warehouses and many foreign planned startups and mine expansions are still on the horizon in the next 2 to 5 years. We maintain a database of Arizona known copper reserves and resources.

**Stable gold Prices Around \$300 Have Increased Precious Metal Interest**

- We have seen a marked increase in inquiries regarding gold resources in Arizona in the last couple of weeks. Stabilization of the gold price around \$300 per troy ounce and media attention given to this recent stability appear to have spurred the interest. We maintain a database of Arizona known gold and silver reserves and resources.

**Frasier Institute Ranks Arizona's Mining Investment Climate Favorably**

- The Frazer Institute has ranked Arizona among the top 10 most favorable areas in the world for new mine investment. Arizona's high ranking results from a positive combination of our favorable geologic setting, our political and regulatory stability, and a population that is generally considered to be accepting of mining.

**Interest in Industrial Mineral Development Continues**

- Possible development ideas for industrial minerals in Arizona have been discussed with many consultants who historically specialized in the metals industries. The current lack of interest in new metal mining exploration and development has driven many consultants to consider non-metal deposit exploration. This continues a trend of consulting professionals moving into allied fields such as reclamation plan development, project permitting, and environmental specialties.

### Copper Prices and Production Cutbacks

Over the last 12 months nearly every copper producer in the world has made cutbacks. These total over 1 million tons or about 2 billion pounds.

COUNTRY	COMPANY	MINE	CUTBACK IN TONS
Chile	Codelco	Codelco Total	106,000
		Chuquicamatu	47,000
		Salvador	11,300
		Andina	23,000
		Teniente	25,000
Japan	Mitsubishi		35,000
USA	ASARCO	Mission	75,000
		Amarillo Refinery	95,000
Japan	Nippon	Refinery	45,000
USA	Kennecott Utah Copper	Bingham Canyon	69,000
Zambia	Anglo American	Konkola	40,000
China	Yunnan Copper	a small mine	4,000
		a larger small mine	18,000
China	Cangxi Copper		30,000
	Daye Non-Ferrous		20,000
	Tongling Non-Ferrous and other small producers closing 6 mines		28,000
Chile	Antofagasto (Ireland & UK)	Los Pelambres	40,000
USA	Chemetco	secondary producer	135,000
Canada	Hudson Bay	RuttanZn-Cu	17,500
Canada	Boliden	Myra Falls Zn-Cu	3,700
Chile	Barrick	El Indio	15,000
USA	Phelps Dodge	Arizona and New Mexico mines except Morenci	220,000
Zambia	Metorex	Chibuluma South Project	15,000
Canada	Imperial Metals	Mount Polly Au-Cu	8,000
Spain	Boliden Apirsa	Zn-Pb-Cu-Ag mine	2,000
Cuba		Closing all copper mines	2,000
<b>TOTAL ANNUALIZED CUTBACKS IN LAST 12 MONTHS</b>			<b>1,053,500</b>

### Changes Made in Land Department's Mineral Material Sales Procedures

- Changes in the Arizona Revised Statutes § 37-205 now provides for the reimbursement of some expenses incurred by a non-successful bidder who originally applied to have the material sale and who incurred certain expenses in that application process. The text is "If the successful bidder at the auction is not the applicant, the successful bidder shall reimburse the applicant for fees and costs paid pursuant to this section in amounts and on terms as the commissioner or the commissioner's designee directs in the auction notice. After reviewing the reimbursement amounts, the commissioner shall remit them to the applicant."

### Proposed 30% Reduction In Federal Highway Spending

- The 2003 Federal Budget proposal submitted to Congress includes a 27.6 percent reduction in Federal Highway construction spending. Federal Highway spending is keyed to gasoline use tax collections, which are down. The impact on Arizona is projected to be a reduction in highway funding by the Federal Government of \$129 million, down to \$357.1 million, causing an employment loss of some 5,400 jobs and a reduction of millions of dollars in sales of sand and gravel, cement, lime, and other construction minerals. The construction industry and state highway department organizations are actively opposing such reductions, especially since the Federal Highway Users Fund contains a \$19 billion positive balance.

## **We Serve As A Bureau of Mining Information**

Examples of our Mining information center function include:

- Providing information to Mayor of Snowflake to assist with re zoning land for the Brimhall Materials sand and gravel operation.
- Providing Max Jarmin of Arizona Republic 4 historic data tables as digital Microsoft Excel spreadsheets for story on Arizona copper industry.
- Suppling John Allan, Maricopa County Sheriff's Office with an AzMILS disk and the Maricopa AzMILS maps. The Sheriff's office had information that David Anthony may be living in a mine between Wickenburg and Morristown.

## **NEW PUBLICATIONS**

- Circular 92, *Arizona Rockhound Information*
- Volume 30, *Arizona Mineral Resource* (ADMMR Newsletter)
- MIS-1 (the Mineral Information Series) *Copper In Arizona* is in final draft and a color copy is on display and a black and white copy is attached.
- MIS-2 (the Mineral Information Series) *Gold In Arizona* is in final draft and a color copy is on display and a black and white copy is attached.
- *Outside Publication* - Summary of Arizona's Mining Industry in 2001 for SME's *Mining Engineering Magazine*. It was pretty depressing reviewing the copper situation. Monthly employment figures over the last 5-year period fell from a peak of 11,400 to 6,500 at last year's end, a 43% drop!

## **Industry News/ADMMR Assistance of Note**

- Phelps Dodge Bagdad announced plans to install \$40,000,000 concentrate leach plant to begin production by mid 2003.
- U.S. Borax closed their Tucson exploration office. The staff members retained will work at their homes. In 2001 they finished drilling Borax anomaly associated with a the nardite ( $\text{Na}_2\text{SO}_4$ ) occurrence in Verde Formation in the Verde Valley.
- Silver Arrow Stone Company is a new dimension stone company located in Fredonia. Roger Smith, President and Larry Casebolt, Vice President formerly ran Arizona uranium mining operations for Energy Fuels (International Uranium Corporation [IUC]) Their stone yard and plant are located at former IUC site in Fredonia. Silver Arrow is quarrying building stone from sedimentary rock deposits at various locations on the Arizona Strip. They reported BLM royalties for dimension stone going up to \$8-12 per ton
- The IUC uranium mines in Arizona remain on care and maintenance.
- BHP-Billiton announced they will shut down pumps and reclaim the San Manuel Mine.
- BHP-Billiton completed their No. 2 Tailings copper recovery and reclamation operation at Miami in 2001

## **Suspicious Mining Activities**

- Provided Wendy Coy at Arizona Securities Division of the Arizona Corporation Commission and the Missouri Securities Division with information regarding releases at [www.pmmrcorp.com](http://www.pmmrcorp.com) and Orykata Products.
- Forwarded an inquiry and information received about an Arizona company, UNICO with operations in Colorado to the Arizona Securities Division.
- Xenolix has been acquired by Franklin Lake after settlement reached with Arizona Securities Division. It is unclear whether Franklin Lake will now have to include the disclaimer on their releases that was part of the negotiated settlement. That statement was:



"There is no assurance that the company's proprietary technology or the patents it holds will be commercially successful or any assurance if they are, that the company will be able to exploit them.

The Arizona Corporation Commission, Securities Division, based upon experts from Arizona State agencies, the U.S. Bureau of Land Management and other federal agencies, disputes the company's proprietary technologies, and its purported assaying technology. The Corporation Commission, Securities Division, using the same experts, also disputes the presence in Arizona, of deposits of economic grade primary platinum group metals."

### Cooperation With Arizona Board of Technical Registration

- We continue to gather information and assemble documents and for submission to the Board of Technical Registration regarding question activities by registrants.

### Carlotta Copper Mine No Longer For Sale

- Bob Walish reported Cambior's Carlota copper mine is no longer for sale. The company hopes to reacquire the last EPA NPDES permit in early 2002 and then seek financing to construct the open pit heap leach project

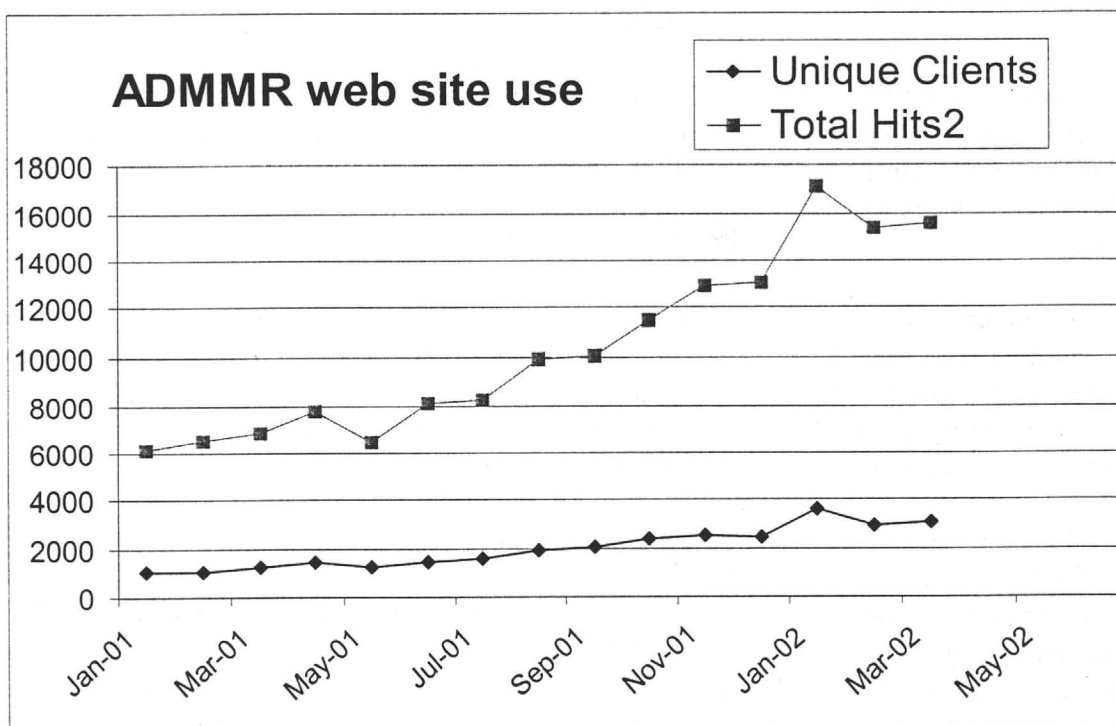
### Computers, Website, etc.

- The Arizona Department of mines and Mineral Resources continues to be a growing source of information for many of the agency's public. In the last quarter some part of the ADMMR website has been accessed 48,000 times.
- Nyal Niemuth continues to lead the ADMMR's work in maintaining the website. Website pages indlink.s.htm (Industry Links), mmrevent.htm (Mining and Mineral Museum Events), onlineres.htm (Online Resources), and staff.htm (Staff Directory) were updated.
- A table and graph shows the ADMMR website usage monthly
- Discovered user corruption problem, set up new 2002-03 files and restored "current 2001-02 club and show files for museum.

## ADMMR Website Statistics

Date	Unique Clients	Total Hits2	Unique URL's "pages" hosted1	Comments
Apr-01	1462	7804	120	High # of URL's
May-01	1288	6436	95	More hits, fewer unique visitors? Does this indicate return visitors or more hits by same visitor?
Jun-01	1455	8126	72	
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Oct-01	2425	11510	117	High # of URL's , Total hits excludes 849 "404's"
Nov-01	2539	12898	105	Zero 404's as all were fixed.
Dec-01	2505	12998	113	
Jan-02	3603	17132	132	Total Hits excludes 2692 from top 5 users Unk, IBM and State DOA; home, ockhound and showlist pages were hit ~5000 times!
Feb-02	2984	15371	116	Total Hits excludes 943 from top 2 users (IBM), Home page 1255 hits
Mar-02	3063	15569	180	pages hosted seems high
Apr-02				
May-02				
Jun-02				
Total (2)	30437	155572	na	

- 1) High # of URL's hosted indicates lots of updating and testing and will exceed total site "pages" reflecting revised editions.
- 2) Corrected total subtracting DOA server hits, etc.
- 3) may include duplicate users across months



#### Mineral Information series

- Copies of the final draft of the first two releases of our new *Mineral Information Series*, MIS 1 *Copper in Arizona*, and MIS2, *Gold in Arizona* are attached. They are to become a new section of ADMMR's website. Individual hardcopy prints will be made as requested by ADMMR users without Internet access. These are fact sheets that address frequently asked questions in some detail.
- The third in the series will be MIS3, *Arizona Mining Facts* will be next.
- The information, especially compiled and written for this format, is intended to educate the general public on the importance of mining and to provide accurate information on Arizona minerals. The series is not of a technical nature. None-the-less, facts and figures have to be checked and rechecked since the Department is held as the authority on mining and minerals in Arizona.

**Director's Activity Report**  
**Fourth Quarter FY 02**  
**April 5, 2002**

**New Board Governor:** Governor Hull has filled the vacancy of Sydney Hoff-Hay. Please welcome Mr. Samuel O. Aubrey. He has been selected from a list of very qualified candidates. Mr. Aubrey has a varied work background including America West Airlines, self-employment, and most recently as a lobbyist for the Arizona Rock Products Association (ARPA). The ADMMR staff is looking forward to working with him.

**Arizona Mining Association:** The depressed copper market and consolidations has apparently hit the AMA. Chuck Shipley, Executive Director for the AMA has been released from his responsibilities. His last day was March 15<sup>th</sup>, 2002. The education portion of the AMA headed by Larry McBiles has been spun off as a separate entity called Arizona Foundation for Resource Education (AFRE). The AMA and AFRE are still housed together at 141 East Palm Lane in Phoenix.

**Budget Plan:** The department has prepared a summary of the year-to-date budget and projected needs through the end of fiscal year 2001-2002. Our original budget has been reduced by approximately \$34,500 based on the revised budget that resulted from the last special session (December 2001). You may recall that our budget is approximately 48 % rent, 49 % personnel services (payroll) and the remaining 3 percent is insurance, travel, and operations. As of 2/28/2002, we are 75% through the fiscal year, but approximately 84 % though the budget. The percent of budget expended always leads the fiscal year because the rent is paid on July 1 (i.e., the first day of the fiscal year we expend 48 % of the budget). Based on the best estimates, we project a shortfall of approximately \$9,600. We are investigating several options to remain at full staff and stay within the 2001-2002 budget. Attached is a copy of the summary.

The fiscal budget for 2003 has not been finalized yet. However, our best information indicates that our base budget will be reduced by 4.5 % or approximately \$ 34,000. Our plan is to reduce expenses for rent and salaries by 4-5 % to make up for this reduction. Rent and salaries combined account for 97 % of our budget amount. To justify the reduction in rent, we are investigating ways to cut back on Department of Administrative services (such as house cleaning, maintenance, etc.). To reduce salaries, we may be forced to furlough or take leave without pay.

**Legislative Governmental Mall Commission:** In February, the ADMMR received "permission" to proceed with our plans for outside exhibits. You may recall that in late in 2001, we were told we needed to obtain approval from the Mall Commission to install a large off-road tire, a shovel bucket, stamp mill, and a mural on the north-facing wall. At the time, we were digging a footer for the large off-road tire. We had an initial presentation before the commission in January that resulted in ADOA producing a landscape plan that included the ADMMR building. The landscape plan was presented before the commission in February and we received permission to proceed.

We completed the excavation for the footer and poured the concrete foundation for the off road tire. Chandler Ready Mix donated the concrete to the ADMMR. The next step will be to form and pour the cradle for the tire and then have the tire hoisted and bolted into place. The shovel bucket is currently being stored at Palo Verde Generating Station awaiting sand blasting and painting. We hope to have both exhibits ready by June 1.

The stamp mill is being prepared for erection sometime this summer.



A proposal for the mural on the north wall of the ADMMR has been prepared. The cost is estimated to be approximately \$12 to 15,000. We are seeking donations from a local equipment supplier(s) to pay for the mural. It is envisioned that the mural would depict equipment and scenes from Arizona mining, both copper and rock products. If any board members have good contacts with equipment suppliers, we would like to make a sales pitch.

**Museum Plans:** We are continuing to work on plans for the House of Minerals and Copper Corner. Our volunteer and full time staff can produce some of the displays, but we are going to need money to provide the software and interactive portions of the exhibits as well as nice mineral cases. The main sources of funds are the state general fund, contributions by our visitors, and outside funds from vendors, suppliers, and the mining industry. We don't believe any funds are coming from the legislature so we are looking to outside sources to raise these monies. To make our pitch, we are preparing tri-fold brochures. We currently have two draft brochures for the House of Minerals and Copper Corner. We intend to give these brochures to prospective donors and others interested in completing these two projects. Please review the drafts and make any comments that you would like to see incorporated.

We have prepared a list of Arizona companies that are potential donors—there may be others you can recommend. If you have friends or working relationships with any of these companies or others, we would like to schedule meetings with you and your contacts to pitch the projects.

**Volunteer Appreciation:** We held our annual volunteer appreciation dinner on Friday March 8<sup>th</sup>. We had a good turnout and the Museum Foundation provided funds for purchasing the food. During the year ending December 31, 2001 we received almost 12,000 volunteer hours. That is equivalent to almost 6 additional full-time employees. Doug Duffy, Lapidary Shop Manager, surpassed 10,000 volunteer hours. On a sad note, Dane Brown passed away in February. Dane had retired from state service and volunteered over 5,000 hours to the ADMMR. He will be sorely missed

**ACTIVITIES AND CURRENT EVENTS FROM THE ADMMR MINING AND MINERAL RESOURCE  
INFORMATION, PROMOTION AND DEVELOPMENT PROGRAM  
4TH QUARTER, 2001-2002**

**Sand, gravel, cement, lime, and other industrial and construction minerals** are growing in their importance in Arizona. News, both positive and negative, about these mineral commodities and their consumptive industries plays a growing role in the health of Arizona's mining industry.

**The Aggregate Mining Community Notice Act, SB1344**, was signed by the Governor in late May. According to the Arizona Rock Products Association (ARPA), the bill will provide safeguards to ensure the continuation of mining and mining related activities throughout the state. The new law gives local communities advanced notice of new sand and gravel mining operations and sets standards for operations. The provisions of the act are as follows:

1. Requires new or major modifications to existing aggregate mining operations within an aggregate mining operations zoning district to file a community notice with the State Mine Inspector and notify residential property owners within one-half mile of the operation. Establishes a fee to be paid by the mining operation.
2. Establishes a community notice process for the siting or major modification of an aggregate mining operation located within an aggregate mining operations zoning district. The process is coordinated by the State Mine Inspector, who is authorized to enforce the provisions outlined in an approved community notice and zoning district regulations.

3. Requires, upon petition by at least 100 residents, counties with a population of more than two million persons to establish an aggregate mining zoning district. Clarifies that any county board of supervisors may establish one or more aggregate mining zoning districts.
4. Limits the location of aggregate mining zoning districts to areas inventoried and mapped as areas of known reserves or in areas with existing aggregate mining operations.
5. Limits the type of zoning district standards that may be adopted to those that are not addressed by federal, state or local regulation or a governmental contractual obligation.
6. Expands the role of the aggregate mining operations recommendation committee to include mediating disputes between members of the public and aggregate mining operators and hearing written complaints forwarded by the Mine Inspector. Requires the committee to forward unresolved disputes to the Mine Inspector for further action
7. No major modification of an approved community notice can be undertaken until it is approved by the Mine Inspector. Major modifications are defined to include: (a.) a more than 20 acre increase over the acreage in the community notice; (b.) a new type of mining never before conducted on-site; or (c.) certain other changes to the community notice.
8. Requires joint approval by the county Board of Supervisors and the State Mine Inspector (without modification) in order for zoning district regulations to be effective.
9. Prohibits aggregate mining in an aggregate mining operation zoning district unless the operation obtains an approved community notice.

**The 2000 Growing Smarter Plus law and its companion Arizona Preserve Initiative** changed little in "America's boom belt" and smart growth is still elusive by many of its proponents. The *Arizona Republic* reports that only 13 of the state's 85 towns and cities have updated their general plans, put them before their voters, and won voter approvals. The program was developed as a compromise to strict growth-control measures sought by the Sierra Club and rejected by voters. The legislature may consider additional measures in the future, the article states, but the Sierra Club, whose fund is still depleted after 2000, doesn't plan a campaign this fall.

**Suppliers of track ballast** may see their first new railroad construction in years. Tucson city officials and a citizens group, Citizens for a Sensible Transportation Solution, are offering conflicting transportation proposals to voters. The city's plan, which focuses on street and congestion improvements, will go before voters this month. The citizen group's plan, which calls for a light rail option, will be on the November ballot, if enough support is shown. Construction of light rail systems may be a boom to specialty aggregate producers.

**LaFarge Company, a major international producer of cement, aggregates, and related building products** noted that their sales of concrete roofing tiles sold in the USA slipped 13% to due to particularly weak new housing starts in markets in Southern California and Arizona.

**AZCO Mining announced that it has begun supplying high-quality feldspathic sand products** (quartz sand containing a significant amount of feldspar minerals) to customers in the Phoenix area. The Company reports to have received preliminary commitments to purchase a substantial portion of its sand products, and it plans to expand its production capacity and to build its customer base as it increases its operational capability. Over the next twelve months, AZCO claims they plan to increase production from their Black Canyon mine to reach the full production rate of 180,000 tons per year. They report they estimate in the Phoenix metropolitan area market for feldspathic sand to exceed 500,000 tons per year. They further report they believe their portion of the market is only limited by their ability to produce, which they claim will depend on securing the required financing to develop the capacity in a timely manner.

**Asarco Ray mine's EPA consent decree project to divert Mineral Creek** was due to be completed by 4/1/2002 but is now scheduled to be done in November

**Oxide copper deposits** and their status generally, have been reviewed with three consultants at the request of their clients. Interest continues in Arizona's massive copper resources.

**Gold prices increased 10% hitting \$325/oz in mid-May** and ADMMR has received a higher level of inquiries about various gold properties and projects.

**State Land Department has been assisted** with a set of custom AZMILS tables for use in determining which lands to select or trade with the BLM.

**Asbestos mineralization and mining in Arizona** was explained to Jo Crumbaker of Maricopa County Air Quality Department. Certain groups are apparently trying to make the case that sand and gravel mining may be releasing asbestiform minerals thus creating a health hazard. Their real motive appears to be harassing S&G operations along the Agua Fria River.

**USGS Minerals Information division** was provided with an annual review write up and an updated/corrected map for mineral production areas in Arizona for calendar year 2001. The ADMMR and the USGS have a joint memorandum of understanding to compile mining statistics and information on Arizona.

**Arizona historical copper production** spreadsheets were developed and provided to Ken McMillian at Phelps Dodge Corporate office.

**Significant mineral occurrence and production information for Pima County** was provided to Jennifer Becker of Pima County to be used in the EIS for the Sonoran Desert Conservation Plan.

**New detailed copper deposit information was obtained:**

1. Update and 2 new reports on Sol, a porphyry copper system in the Safford trend
2. Update ownership and status on Stray Elephant copper deposit, La Paz county.
3. New SEG article and PPT presentation on Magma Porphyry. Resolution Copper Co. is the new incorporation name for Rio Tinto's exploration project at that deposit.

**NEW PUBLICATIONS**

- Arizona Mineral Resource – No. 31, May , 2002,
- Arizona Mineral Resource - No. 32, August, 2002
- C93 – Earth Science Clubs – 2001-02
- C94 – Gem Shows – 2001-02
- C95 - Services of the Dept. to Potential Purchasers of Arizona Commodities
- C96 – Pertinent Data
- C97 – Arizona Mining Law Change
- C98 – Arizona Earth Science Clubs – 2002-03
- C99 – Arizona Gem Shows – 2002-03
- OFR02-18 – The Crushed Stone Industry Grows Up, A History of Mineral Material Trespass on Public Lands in Central Arizona
- OFR02-19 – Total Leachable Copper Determination Using the Boiling Ferric Sulfate Method

**New and expand cement plants require new or expanded gypsum mines.** Demand for gypsum in Arizona is increasing due to cement plant capacity expansions at Phoenix Cement and Arizona Portland Cement and a new plant, Stirling Bridge, at Paulden. Western Mining and Minerals near Littlefield,

Phoenix Cement – Verde Gypsum at Camp Verde, and United Metro’s Winkleman Gypsum will all be increasing production to meet the needs of the new or expanded cement manufacturing plants.

### **Turquoise Madness –**

Gem buyers from around the world are looking to Arizona to supply an urgent demand for turquoise. The Arizona gemstone has become the latest fashion craze as film and rock stars began wearing the stone this spring and suddenly turned it into the trendiest item since pet rocks. Sophia Loren and Britney Spears, among others, have fueled the turquoise frenzy as they have been seen wearing a variety of turquoise jewelry. Although some other countries produce turquoise, it is not Arizona’s official gemstone for nothing. Turquoise is an ore of copper and Arizona is the Copper State, producing 65 percent of the Nation’s copper.

Native Americans mined turquoise in this area long before the first Spanish explorers and it has continued to be a local favorite, but it has not been in high fashion vogue since the 1970s. “I can sell absolutely all Arizona turquoise I can get,” says Jim Vacek of 49er Minerals, exporter of Arizona minerals. “European and Asian buyers can’t get enough.”

Currently turquoise is mined at the Sleeping Beauty mine near Globe by Sleeping Beauty Turquoise and a small amount at Morenci by Southwest Minerals. There is also some production by independent prospectors and collectors.

If you were to drive Highway 89 or 160 in northeastern Arizona this summer you probably would not see the familiar and popular “Indian Jewelry” signs on roadside tables. They did not have to go to buyers this summer; buyers beat a path to their doors.

**Phoenix Cement Company’s plant modernization** and capacity expansion is on schedule and expected to be completed prior to the end of 2002. Some interesting technical notes on the project include:

- Nameplate kiln capacity is 3,000 tons per day. Based on a kiln safety factor of 15%, a cement equivalency of 108%, and an estimated operating time of 95%, the expanded capacity is specified at 1,123,000 tons of cement per year
- Gypsum content of the cement will be 5.5-6.0 percent or 62,000 to 67,000 tons per year
- The optimal amount of gypsum is determined by the SO<sub>3</sub> content of the cement clinker
- The clinker contains some sulfur from the coal used as kiln fuel
- The majority of the kiln fuel is coal from the National King Mine near Hesperous, Colorado with a sulfur content of 0.7-0.8%. Fuel used includes some petroleum coke from Wyoming with a sulfur content of 4.5%
- Completed in three phases, the modernization employed between 250 and 450 construction workers and will have taken 22 months to complete. A two-fold expansion of the cement company’s limestone and gypsum mines will be completed simultaneously to supply the expanded cement plant. The new expanded plant will reduce the need for imported Portland cement.

**Stirling Bridge Cement** is permitting a cement manufacturing facility near Paulden. The plant, to be located on private land will be supplied by a limestone quarry to be developed on Prescott National Forest lands. When approved by the federal government, the quarry will supply the 350,000 tons per year cement plant and between 75 and 100 local jobs will be created. The cement will be used for commercial and residential buildings in expanding construction market in Arizona.

**The ADMMR website is very popular.** The Arizona Department of mines and Mineral Resources website continues to be a growing source of information for many of the agency’s public. In the last quarter some part of the ADMMR website has been accessed 43,000 times. Over the last fiscal year some part of the ADMMR website was visited 156,854 times by 31,338 users.

### SUSPICIOUS MINING ACTIVITIES

- Everlight Commons Trust is offering small acreages purportedly valuable for onyx at near Mayer on the Natures Beauty Claim #3. A supposed \$188,000,000.00 appraised value is being promoted.
- Registered assayer Shaw of Copper State Analytical is paying a \$100K fine to Arizona Health Services (AHS) for falsifying records submitted to AHS and other issues
- Possible Arizona sources of basalt and pumice were discussed with two different startup companies. Both would not tell us what they wanted the material for; only that it was to be processed by proprietary methods to make ingestible health products and/or super plant growth aids.
- The June 2002 issue of the *International California Mining Journal* carried an excellent article alerting their readers to the presence of suspicious mining investment schemes. ADMMR made a point of congratulating the publisher of the magazine. Some of the journal's passed advertisers were discussed with the publishers. The *International California Mining Journal* was often an excellent source of advertisements for exotic, proprietary processes and analytical methods that could prove "unassayable ores."
- One of the *International California Mining Journal's* past guest authors was Alvin Johnson. Mr. Johnson was a named party in the Xenolix settlement reached with Arizona Securities Division. As a result of the settlement Xenolix releases must include the following disclaimer:

"There is no assurance that the company's proprietary technology or the patents it holds will be commercially successful or any assurance if they are, that the company will be able to exploit them.

The Arizona Corporation Commission, Securities Division, based upon experts from Arizona State agencies, the U.S. Bureau of Land Management and other federal agencies, disputes the company's proprietary technologies, and its purported assaying technology. The Corporation Commission, Securities Division, using the same experts, also disputes the presence in Arizona, of deposits of economic grade primary platinum group metals."



**STATISTICAL REPORT FOR ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES JULY 1, 2001 THROUGH JUNE 30, 2002.**

(Some data is not available due to partial reporting periods, tabulation startup, and other unforeseen circumstances.)

*(Item italicized in parentheses are measurement items in the current strategic plan)*

	1 <sup>st</sup> ¼ 2001-2002	2nd ¼ 2001- 2002	3rd ¼ 2001-2002	4th ¼ 2001-2002	Total Fiscal 2001-2002
[1] Visitors Mineral Resource and Development Technical Information Center (upstairs) [Visitors to the mining and mineral resources information center.] <i>(people requesting information on mines &amp; minerals in office)</i>	435	473	504	342	1,754
Number of above using databases, files, library, etc. [Those above who sign in to use files, library materials, maps, or magazines.] <i>(Mineral occurrences research by the public)</i>	111	212	234	104	661
Special events	0	1	5	2	8
Possible new mine startups <i>(Requests for permitting, environmental, and mine startup information)</i>	3	4	2	4	13
[2] Arizona Mining and Mineral Museum [Total of the following five groupings]	5,542	9,133	10,607	12,216	36,498
General Museum Visitors [All Arizona Mining and Mineral Museum visitors]	3,079	2,225	3,640	3,817	12,761
Student Visitors [Number of students and teachers in scheduled school field trips to the Museum]	1,222	5,864	5,555	6,188	18,930
Club Members [Earth science club members using the Museum facility.]	655	641	1,048	661	3,005
Americans With Disabilities	99	103	54	199	455
Scouts	119	167	165	144	595
Lapidary Shop Users / Hours	267/1,313	133/762	145/830	207/1,290	752 / 4,195
Organized museum tours [Includes schools & other tours]	48	88	90	116	342
[3] Telephone contacts [Incoming and outgoing]	3,889	5,094	3,866	4,139	16,988
[4] Letters and information sent out by mail, facsimile, and e-mail.	1,109	330	1,235	5,302	7,976

	1 <sup>st</sup> ¼ 2001-2002	2nd ¼ 2001- 2002	3rd ¼ 2001-2002	4th ¼ 2001-2002	Total Fiscal 2001-2002
[5] Unique visitors to <a href="http://www.admmr.state.az.us/">http://www.admmr.state.az.us/</a> website	5,623	7,469	9,650	8,596	31,338
Number of visits ADMMR website pages	28,202	37,406	48,072	43,174	156,854
Mineral and Rock samples identified for the public	117	243	150	83	593
<b>Total direct patron contacts (1+2+3+4+5+6+7)</b>	<b>16,939</b>	<b>22,726</b>	<b>26,691</b>	<b>32,302</b>	<b>98,658</b>
Mining & Mineral Museum Gift Shop sales	\$13,931.68	\$24,973.75	\$28,144.19	\$37,058.93	\$104,108.50
Publication sales	\$548.02	\$879.20	\$1,842.63	\$2,170.71	\$5,440.56
Mine files and library references used	583	846	628	562	2,619
Technical conferences held	19	34	21	38	112
Meetings attended	34	23	55	54	166
Seminars and symposiums attended	2	2	6	3	13
[6] Programs given and (number of people in attendance)	7(423)	6(183)	8(403)	43(1,971)	64(2,980)
Written or public advocacy statements	5	3	2	4	14
Mining/mineral resource properties visited	6	5	9	12	32
Volunteer hours received	2595	11,830	3,270	3,361	21,056
Donations     Cash	\$618.30	\$175.00	\$1,117.00	3,126.30	\$5,036.00
Donations     Bulk rock & mineral material (pounds)	11,796	2,478	6,081	834	21,189
Donations     Individual specimens	315	391	185	482	1,373
Donations     *Mine data, libraries, materials, collections [See list at end of table]					
Donations     Outgoing [See list at end of table]					
Additions to Museum collection	42	37	32	216	327
School curriculum programs ([7] number of students)	2	8	7(426)	10(578)	27(1,004)
Teacher mineral kits distributed	38	119	153	112	422
Additions and corrections to information base					
Museum specimens & information	4,182	2,795	6,574	5,013	18,564
Mineral resources information ( <i>Files updated</i> )	1,211	1,362	894	671	4,138
New / modified internal exhibits (both in galleries and out doors)	2	0	6	4	12
External exhibits	3	3	4	1	11
Display cases cleaned, relamped, relabeled, etc.	0	0	5	5	10

- Picked up three loads of files, maps, and library data from Walt Heinrichs from his Heinrichs GeoExploration library and mine files There have been two 8'x16' stake bed loads and an enclosed van load moved from his Tucson garage to Phoenix. There remains a pickup truck load of rock specimens and vintage geophysical equipment to be moved. The donation is guessed to include over 2,500 property reports.

- Clark Arnold donated many hundred flat maps (in 8 card board folios) produced from projects of Clark Arnold and David Lowell that largely focused on copper and precious metal exploration.
- Mine reports from Don White on Fortuna and Button deposits were received.
- Two separate donations from Janice Coggin of reference materials and mine data.
- Acquired transcripts from: HCCA vs. Land Dept. Administrative hearing (~900 pages), SEC deposition of Alvin Johnson 1995 (~200 pages), SEC deposition of Alvin Johnson 1995 (~200 pages)
- Outside exhibits were prepared for Sky Harbor International Airport Terminal 3, the Arizona State Fair, and the Wickenburg Gem and Mineral Show.
- Reviewed 5 banker boxes of mine files from Janice Coggin for "original" reports and other data from Mason Coggin and included it into existing ADMMR mine files.
- At the suggestion of Clark Arnold's Geoffrey Nason at Molycorp. Inc. was contacted to suggest they donate data to ADMMR. They have 35 boxes of exploration data related to the work Union Oil did at the Anderson Uranium Deposit in Yavapai Co. Molycorp has not yet made a decision to donate the material although they no longer have a corporate interest in uranium.
- With volunteer Jerry Meyers picked up furniture at Teen Challenge. Worked with him to improve organization and add storage to library, file room and file annex.
- Chandler Redi-Mix donated and delivered 9½ yards of concrete for the base foundation of the Caterpillar 797 haul truck tire.





## ANNUAL VISITATION (inc. students) For The Years 1995-2002

	1995	1996	1997	1998	1999	2000	2001	2002
<b>JAN</b>	2453	2897	3332	2857	2765	2852	3703	2719*
<b>FEB</b>	4040	3691	4174	2984	3733	3914	3912	3690
<b>MAR</b>	4442	4467	4434	3579	3834	4171	4178	4198
<b>APR</b>	4454	4527	5522	5052	4547	4383	4188	4661
<b>MAY</b>	3816	3339	3151	3937	4000	3109	2888	4139
<b>JUN</b>	3313	3487	2111	2719	2319	2385	2193	2416
<b>JUL</b>	2628	2909	2892	2534	2064	1888	2017	
<b>AUG</b>	2051	2189	1475	1514	1470	1262	1654	
<b>SEPT</b>	1927	1942	2637	2006	2273	2422	1871	
<b>OCT</b>	2935	2972	2655	3650	2741	3576	3443	
<b>NOV</b>	3208	2852	2619	2525	2823	3266	2834	
<b>DEC</b>	2974	3426	2364	2228	2182	2994	2856	
<b>TOTAL</b>	<b>38241</b>	<b>38698</b>	<b>37366</b>	<b>35585</b>	<b>34751</b>	<b>36222</b>	<b>35737</b>	<b>21823</b>

### FISCAL YEAR SUMMARY

**FY 1995/96 - 38,131**

**FY 1996/97 - 39,014**

**FY 1997/98 - 35,770**

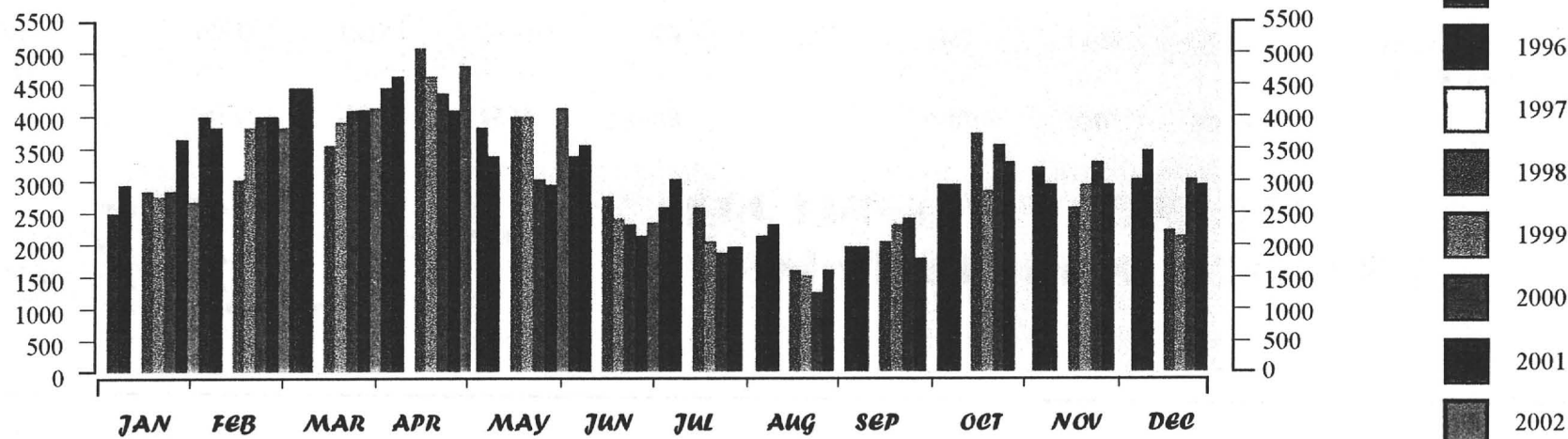
**FY 1998/99 - 35,655**

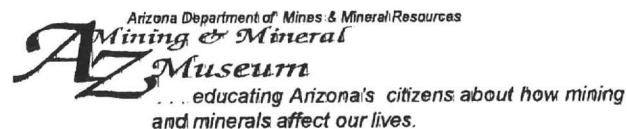
**FY 1999/00 - 34,368**

**FY 2000/01 - 36,470**

**FY 2001/02 - 36,498**

\* Construction and the closure  
of our parking lot, combined  
with the heat, dissuaded visitors  
during late FY 2001/02



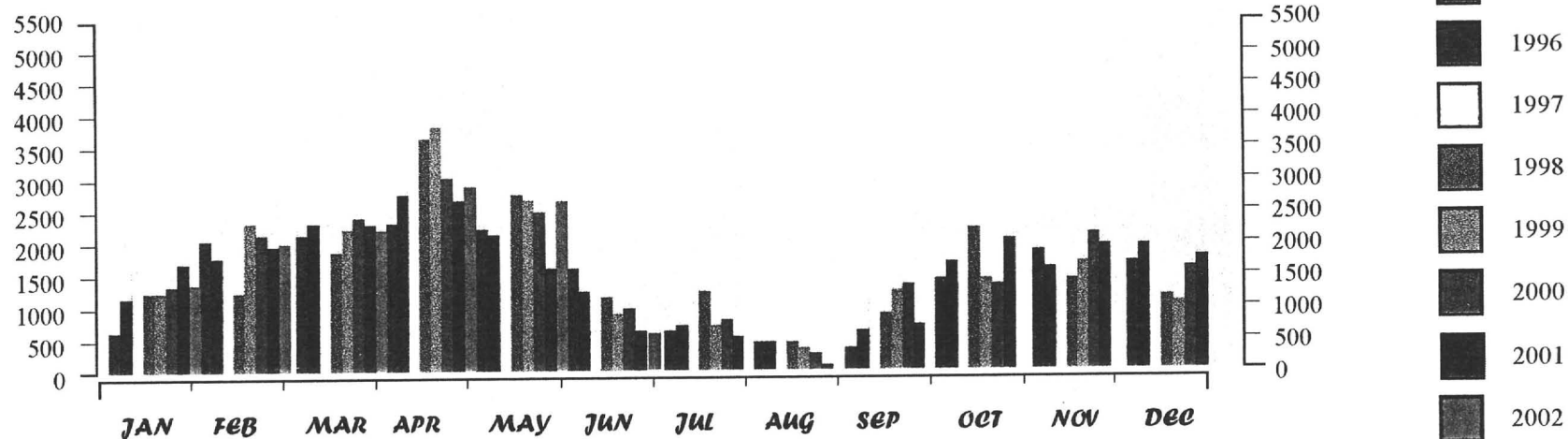


## ANNUAL STUDENT VISITORS For The Years 1995-2002

	1995	1996	1997	1998	1999	2000	2001	2002
<b>JAN</b>	586	1104	1592	1153	1182	1259	1693	1353
<b>FEB</b>	1941	1778	2331	1285	2236	2053	1899	2017
<b>MAR</b>	2090	2278	2271	1854	2159	2411	2262	2185
<b>APR</b>	2361	2739	3174	3584	3834	2990	2725	2918
<b>MAY</b>	2257	2084	1826	2725	2590	2535	1525	2660
<b>JUN</b>	1492	1201	569	1168	869	993	632	610
<b>JUL</b>	560	665	1017	1205	622	694	546	
<b>AUG</b>	430	449	160	495	308	137	50	
<b>SEPT</b>	355	587	1358	777	1219	1290	727	
<b>OCT</b>	1435	1570	1320	2165	1426	1361	2040	
<b>NOV</b>	1859	1573	1411	1448	1665	2107	1952	
<b>DEC</b>	1607	1895	898	997	1042	1678	1872	
<b>TOTAL</b>	16973	17923	17927	18856	19152	19508	17923	11743

### FISCAL YEAR SUMMARY

FY 1995/96 - 17,430  
 FY 1996/97 - 18,502  
 FY 1997/98 - 17,933  
 FY 1998/99 - 19,967  
 FY 1999/00 - 18,523  
 FY 2000/01 - 18,003  
 FY 2001/02 - 18,930





## Arizona Department of Mines and Mineral Resources

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1-800-446-4259 in Arizona FAX (602) 255-3777 [www.admmr.state.az.us](http://www.admmr.state.az.us)

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### ACTIVITIES AND CURRENT EVENTS FROM THE ADMMR MINING AND MINERAL RESOURCE INFORMATION, PROMOTION AND DEVELOPMENT PROGRAM

#### 1<sup>ST</sup> QUARTER, 2002-2003

(NOVEMBER 18, 2002)

**LME copper for November 18, 2002 delivery closed at 72.05 cents per pound** – cathode. This cathode price is 3.15 cents higher than price given at the August 2002 Board of Governors' meeting.

**Magnetite needed for Portland cement and ferric chloride manufacture.** We have received inquiries for iron sources that may be developed for local use in supplying iron for the expanded capacity at Arizona's large Portland cement producers. We have also received inquiries for a source of iron in the mineral form magnetite for use in manufacturing ferric chloride used in wastewater treatment. (see also the note about iron chemical waste in the SUSPICIOUS MINING ACTIVITIES section below)

**Stirling Bridge Cement, Arizona's new planned cement plant at Drake** was among the featured new and existing Arizona business ventures formally "unveiled" at a reception given by Grant Goodman. The cement manufacturing facility at Drake will produce 350,000 tons per year. Adjunct to the cement plant will be a bio-diesel fuel manufacturing plant and a waste heat electrical generating station. The ADMMR received glorifying recognition of their part in providing limestone data that, in Mr. Goodman's words; "made it all happen." A number of state and county elected officials were in attendance.

**Phelps Dodge Bagdad Copper concentrates** hydrometallurgy-processing plant, announced as a \$40 demonstration plant is nearing completion. Rumors are that the technical mineral processing staffs from other Phelps Dodge copper concentrate operations are being encouraged to visit and study the pilot plant construction and operation. It would appear that the technology may already be considered for other PD copper operations.

**A Buckeye manufacturer** wanted information on a rumored Mexican mining company that was offering ground calcium carbonate at 30% below current market prices. Sonora Minerals is reported to be earnestly trying to win calcium carbonate, ground limestone, and crushed marble supply agreements away from Arizona producers. Manufacturers using these mineral commodities are very cost conscious and purchase agreements made by company purchasing agents often ignore quality assurance and supply assurance concerns just to show management they can get the cheapest price. The manufacturer making the inquiry reports they are not interested in sourcing their needs in Mexico, but is concerned that the price pressure may drive other consumers away from Arizona miners and perhaps cause Arizona sources to shut down.

**Peabody Energy Corporation** reported a favorable arbitration ruling on coal sales to an Arizona generating station would add \$20 million to profits in 2002. The ruling, on July 20, increases pricing on 42 million tons coal sold to the Navajo Generating Station in Page, Arizona, from 1997 to 2002. The ruling also increases pricing on ongoing sales under a long-term sales agreement. This ruling will