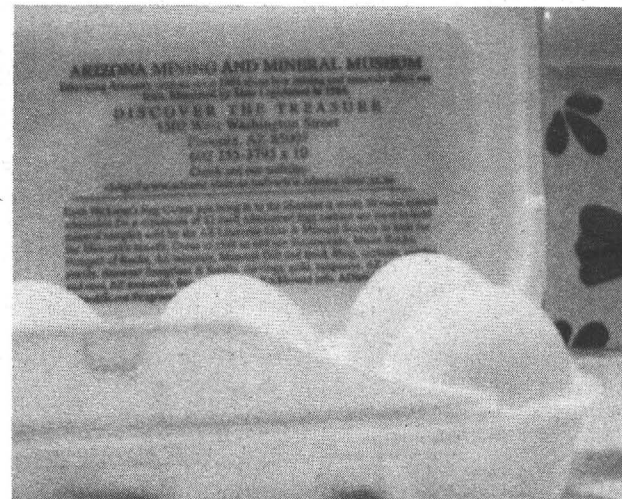


THANK YOU HICKMAN EGGS!



Look for Hickman's Eggs at your local grocery store. Inside select cartons, you will find an ad for the Arizona Mining & Mineral Museum. Bring in the carton (up to 2 per person) for 50 cents off Museum admission. The Museum uses egg cartons for Family Day.

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Mineral Resource

Polly is Gone

Polly Rosenbaum, teacher, legislator, and museum benefactor died on December 27 at age 104. Polly, a State Representative for 45 years, was responsible, along with Rose Mofford, Arizona's Governor at that time, and former Senator Bill Hardt, for getting the Department its present quarters in the former El Zariba Shrine Temple. She also helped obtain funds to transform the 1920 building into the elegant and graceful Museum and Department offices of today. In recognition of her efforts the State renamed the building the Polly Rosenbaum Building.

Until Polly took an interest in the Department's welfare, the Department and Museum were located in a cramped and dilapidated facility on the State Fairgrounds. The building was unmaintained by the State except for staff members donating their time and money for improvements and repair. Department archives were stored in the swamp-cooled building, subject to flooding, mold, dust, and termites. Museum and Department visitors had to struggle to get onto the fenced and guarded fairgrounds, and then contend with the inadequate cooling and heating.

All this changed when Polly and Rose, both from Globe and mining backgrounds, decided it was time for decent quarters for the mineral collection and Department's mining information. Polly and Rose devoted their time and energy to the project. Their efforts came to fruition on October 1, 1991 when the Department moved in, installing the State's extensive mineral collection in its spacious new quarters and the Department's files, maps, photographs, and library into storage areas protected from fire and water damage.

In an article published February 21, 2003, in the Arizona Capitol Times, Polly said, "These new people have a very short view of history. The (Mineral) Museum is about more than minerals; it's the identity of Arizona. The prospector and burro came hunting for gold and silver, but copper revolutionized the electrical industry and created the modern world. Many people had no idea how dependent we are on minerals, until they came to the museum."

Polly was born Edwynne Cutler in Ollie, Iowa in 1899 and moved to Colorado as a child. She came to Arizona in 1929 to teach school in Hayden. She later

worked for Inspiration Consolidated Copper Company. The company sent her to work in Phoenix in 1939 where Polly married William Rosenbaum, Speaker of the House. Upon her husband's death in 1949 Polly was asked to complete his term. She was returned to office for the next 45 years!

Polly had a strong work ethic and great integrity. She spoke up for people who were often unable to speak for themselves – children, the elderly, rural residents. She was frugal with taxpayers' money, worked long hours, and devoted herself to what she believed in. She pushed for education, museums, and libraries. Polly was an extraordinary public speaker and a gifted arbitrator.

Her concern for the Department and Museum did not stop when the new building was a reality. She frequently visited to see how things were going and view new developments. We at the Department hold the memory of her flying up the stairs at the Museum, ever disdainful of elevators, as we struggled to keep up with her. She chatted with staffers, volunteers, and visitors, putting people at ease and listening attentively to what they had to say. Doug Sawyer summed it up for us; "Along with the rest of Arizona, we mourn her loss."



Two Grand Ladies of Arizona

Rose Mofford, former Governor of Arizona, poses with Polly Rosenbaum at Polly's 99th birthday party. The party, organized by Rose, was held at the Museum.



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Address Correction Requested

Safford FEIS Released

On December 12 the BLM released the FEIS (final environmental impact statement) http://www.az.blm.gov/env_docs/dos_pobres/index.htm on Phelps Dodge's Safford project, with publication of changes to the record of decision expected mid-year. The EIS process took over nine years.

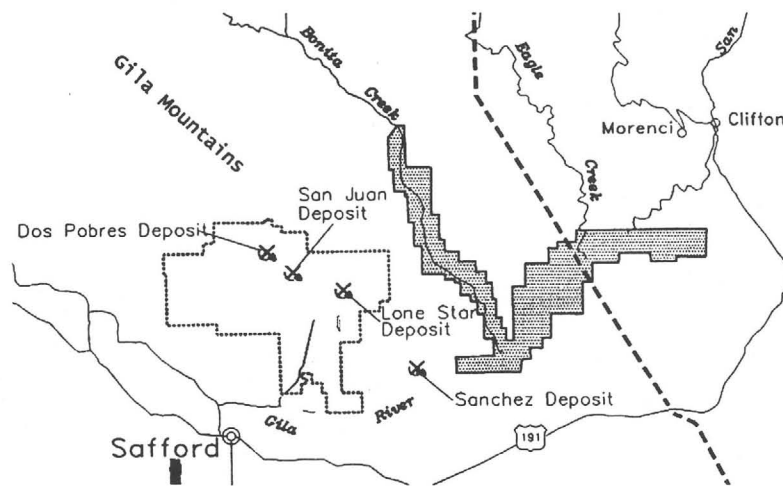
Located eight miles north of Safford, the mine will be one of the nation's largest, producing up to 250 million pounds of copper a year. It is hoped that mine construction will occur during 2005 – 2007 and production will begin sometime in 2007 – 2009.

The mine will be an economic boon to Graham County as well as the State. An average of 450 construction workers will be needed on the 18-month construction period and the mine will employ 350 people for approximately 16 years. The mine will generate an estimated \$151 million in state and local taxes and \$213.1 million in wages to employees.

The area of the San Juan and Dos Pobres deposits were first mined for isolated, small veins of chalcocite around the turn of the century. Phelps Dodge purchased land for this project in the late 1950s with a view to developing Safford as a major copper mine in the future.

The project affects 3,400 acres, all ultimately owned by Phelps Dodge. The mine will have two pits; Dos Pobres will be 1,400 feet deep and San Juan will be 1,000 feet. The mine will produce and treat both crushed and run-of-mine leach material. The crushed material size will be 0.5 inch. It will be agglomerated and consume about 10 pounds of sulfuric acid per ton. The acid will come from the Miami smelter and by the reduction in acid used at other operations. The material will then be placed in a retreat-stacking method, unlike the advance stacking in use at Morenci, to avoid compaction. The single-lined leach pad will be the largest in the world at about 900 acres – nearly 1.5 square miles. The world's longest stackers, 100 yards, will be used to load it.

Solution will be applied with drip emitters. All solution facilities will be double-lined and the entire project is a zero discharge facility. The biggest concern was dust from the haul roads. The view shed was an important planning consideration with the local community. Major permits required included the plan of operation/land exchange, the 404 CWA permit and the 402 NPDES permit. Other permits included an APP



The Dos Pobres, San Juan, Lone Star, and Sanchez deposits lie between Safford and Morenci.

and Air Quality permit from the Department of Environmental Quality and the reclamation plan approval from the State Mine Inspector. Fortuitously, the ground water will come from the "bathtub" graben that hydrologically separates the project from the Gila River, 8 miles to the south and the San Carlos Indian Reservation to the north. This portion of the permitting process required a detailed ground water model to show no significant impact. This was a major portion of the study from 1996 to 2003.

Mineral Commodity Summaries 2004

Arizona ranked third in the Nation in the value of nonfuel mineral production in 2003, up one spot from 2002. Nevada with its huge gold production ranked second, and California with its sand and gravel production was first.

The U.S. Geological Survey released the Mineral Commodity Summaries 2004 in February. They report the estimated value of all nonfuel mineral production in the United States during 2003 increased by about 1 percent over 2002, to \$370 billion.

Great News!

The price of copper rose to an eight-year high of over \$1.30 a lb on the London Metal Exchange (LME) in February. Analysts and traders call the gains the first red-hot bull market of the millennium. Copper prices rose 33 percent in the last three months of 2003 and have continued to rise. Copper inventories are low and supply, fueled by strong demand, particularly from China, is high. Prices have prompted Phoenix-based Phelps Dodge to increase production.

Museum News

By Susan Celestian, Curator
This place is really hopping!

October's Family Day/Mineral Sale – and event co-hosted by the Museum and the Arizona Mineral and Mining Museum Foundation – was a rousing success, with 447 attendees. Arizona Prospector's Association provided gold panning and a coin shoot, and mineral dealers sold a variety of mineral specimens, with something for everyone.

In November, I taped a "bumper" for CBS Morning Show. With all the waiting for the planes to fly over and buses to drive by, it took about 1 hour to tape a 20 second spot! It was on TV (national!) on December 29, 2003 and you had to look/listen fast or it was over, but 7 families from around the country, who subsequently visited Phoenix, stopped by the Museum as a result of seeing it.

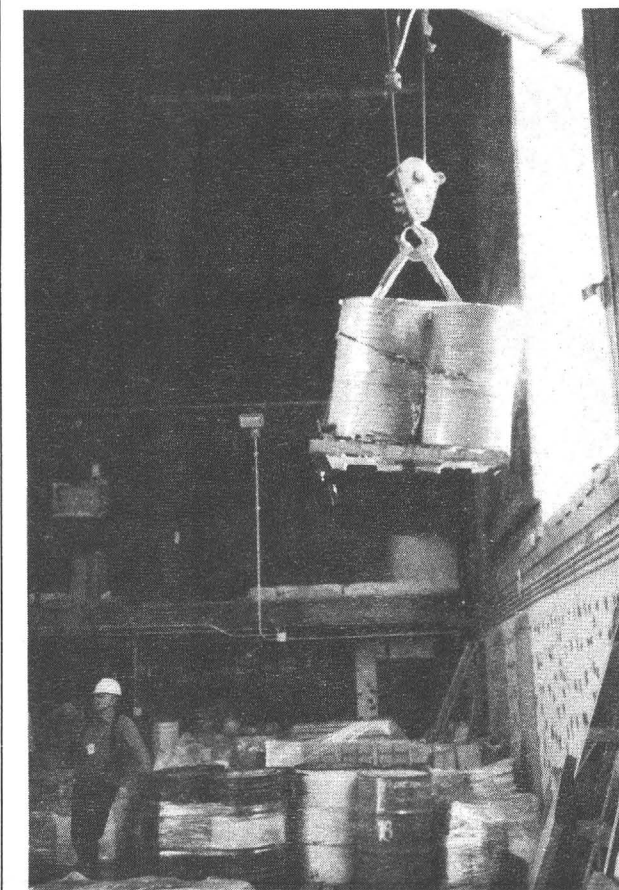
Charlie Connell (volunteer par excellence) and I ate breakfast with members of APS Hauling Services and presented to them plaques, in recognition of all the aid they have lent to the Museum. The participation of APS has been pivotal in the acquisition and installation of the train engine, headframe, stampmill, truck tire, loader bucket, and other large donations and major collection purchases. The Hauling Services staff/drivers have been wonderful, exhibiting great imagination, willingness to drive big trucks into the wilds of Arizona, careful professionalism, and charm. We are deeply indebted to APS for the donation of technicians, time and trucks.

There is still opportunities to get to some great gem shows:

February 27-29 Phoenix Gem & Mineral Show

March 20-21 Verde Valley Gem & Mineral Show

May 29, 30 Pinetop-Lakeside White Mountain Gem and Mineral Show



APS Hauling Services comes to the aid of the Department again by supplying a crane to move the latest Museum acquisition - 22 barrels and 35 pallets of minerals destined for teachers' kits, Museum shop sales, and, a few, into the Museum's permanent collection. Volunteers take delivery of the material in a area that was formerly below the stage of the Shrine Temple, that is currently used for storage, and that will eventually be our underground mine display.

Friends

Our Museum has "Your Windows to the Earth's Inner Beauty." That is the mantra of the recently formed **Friends of the Arizona Mining and Mineral Museum**. This 501(c)3 non-profit corporation will be dedicated to raising funding for Museum projects, through grants, special events, and memberships. If you are interested helping to make the Museum all it can be and would like more information, contact them at P.O. Box 27795, Tempe, AZ 85285-7795; or call (480) 241-7959 or (623) 935-2007



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