



STATE OF ARIZONA  
**DEPARTMENT OF MINES AND  
MINERAL RESOURCES**

67<sup>TH</sup> Annual Report  
FY 2005/2006

**State of Arizona**

**DEPARTMENT OF MINES  
AND MINERAL RESOURCES**

1502 West Washington Street

Phoenix, AZ 85007-3210

602-255-3795

[www.mines.az.gov](http://www.mines.az.gov)



**67<sup>th</sup> Annual Report  
Fy2005/2006**

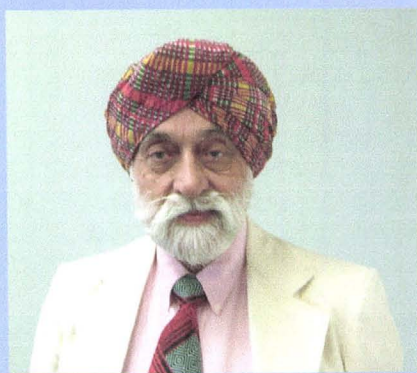


**Janet Napolitano, Governor**



## Message from the Director

### Annual Report 2005 - 2006 Arizona Department of Mines & Mineral Resources



Dr. Madan M. Singh,  
Director

August 10, 2006

The Honorable Janet Napolitano  
State of Arizona  
1700 West Washington Street  
Phoenix, Arizona 85007

Dear Governor Napolitano:

The Board of Governors for the Department of Mines and Mineral Resources (DMMR), State of Arizona, is pleased to submit the Annual Report for the Fiscal Year 2006. This report is submitted in compliance with Arizona Revised Statutes Section 27-106.

DMMR has the statutory directive to promote and advocate the development of Arizona's mineral resources. The promotional activities encompass both technical and educational processes. Arizona was the No. 1 non-fuel mineral producing state in the country in the calendar year 2005, according to the US Geological Survey. Its direct impact on the economy of the State was \$4.7 billion. If the direct impacts of coal production and mineral exploration, along with development investments, are included this exceeds \$5 billion. The direct and indirect contribution to the economy is around \$10 billion. The number of jobs, both direct and indirect, was over 50,000. The metalliferous mining industry contributed \$16,399,086 in Severance Taxes and non-metal mining (including oil and gas) paid \$9,898,546 in Transaction Privilege Tax to the State; giving a total of \$26,297,632 in Fiscal Year 2005.

Although mining is a cyclical industry, it is currently on the ascending part of the curve. Arizona produced 61% of the copper in the United States in 2005, and was among the leading producers of molybdenum and sand and gravel. Exploration for uranium is currently strong. The Department plays a major role in attracting exploration and new mining ventures into the State.

In addition to providing the information desired by the minerals industry, the Department hosts the Arizona Mining and Mineral Museum. The Museum offers an outstanding display of minerals from throughout Arizona and the world. It serves to educate the public on the critical role of minerals in society, and pays special attention to children.

With the current staff of seven full-time employees (FTEs) and seven part-time staff, and a dedicated corps of volunteers, the Department provides a high quality of service to its patrons and the mining industry.

The minutes of the quarterly Board meetings for the fiscal year are appended to this report.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Madan M. Singh".

Madan M. Singh, Ph.D., P.E.  
Director  
For the Board of Governors

Mining is an essential industry that promotes safety and education, and responsibly produces materials for products necessary to today's standard of living - with concern for the environment, the culture, and economic future of the state.

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## Personnel

### Board of Governors

Mr. Samuel O. Aubrey (2007)  
Scottsdale  
Mr. P.K. Rana Medhi (2008)  
Casa Grande  
Dr. Raymond W. Grant (2009)  
Chandler  
Dr. Patrick F. O'Hara (2010)  
Prescott  
Dr. Mary M. Poulton (2011)  
Tucson

### Staff

Dr. Madan M. Singh  
Director  
Nyal Niemuth  
Chief Engineer  
Edward Bustya  
Mining Engineer  
Susan Celestian  
Curator  
Diane Bain  
Public Information  
Officer  
Jacqueline Hall,  
Administrative Asst.  
Tina Mendoza  
Clerk/Typist

### Part-Time Employees\*

Liz Anderson  
Ann Baker  
Shirley Côté  
Doug Duffy  
Joanne Hesterman  
Laurette Kennedy  
Alice Rosenfeld

\*Non-appropriated funds

## 2005/2006 Fiscal Year Financial Statement

### Appropriated Fund #1000

Appropriation ..... \$814,400  
Expenditures ..... 808,940  
Reverted ..... 5,460

### Mines and Mineral Resources Fund #3156

Beginning Balance (7/1/2005) ..... \$145,978  
Income (store sales, donations,  
publication sales) ..... 191,817  
Expenditures ..... 193,281  
Ending Balance ..... \$144,514

### Vision

To be the premier mineral resource center and a repository for mining and mineral information, and to maintain a world-class museum to display the preeminent mineral collection in the State of Arizona.

### Mission

The mission of the Department of Mines and Mineral Resources (DMMR) of the State of Arizona is to promote exploration and support development of mineral resources and to provide pertinent data and assist those seeking to explore and develop mineral resources in the State of Arizona. In addition, DMMR is responsible for maintaining a world-class mining and mineral museum that portrays the economic and aesthetic value of minerals and for educating the public with regard to the critical role of minerals and mineral resources in our society.

## Donated Funds

FY 2005/2006

Donor	Purpose	Amount
Cactus & Succulent Society	For education	22.00
Resolution Copper	For outreach	60.00
Jane D Hull Elementary School	For education	64.00
Gold Prospectors of American, Phoenix Chapter	For mineral acquisition	100.00
Jane D Hull Elementary	For education	53.00
Leaverites	Beads for Family Day	600.00
APS Foundation (Matching funds for volunteer hours for Charlie Connell)	For stamp mill	125.00
Bruce Brown	For mineral acquisition	100.00
Maricopa Lapidary Society	For education	1,500.00
Friends of the AZ Mining & Mineral Foundation	For volunteer banquet	500.00
AZ Mineral & Mining Museum Foundation	For volunteer banquet	1000.00
Arizona Prospectors Association	For Copper Gallery	670.67
APS Foundation (Matching funds for volunteer hours for Steve Sharley)	For stamp mill	125.00
<b>Total</b>		<b>\$4,919.67</b>

### Funds Donated to the Friends of the Arizona Mining and Mineral Museum

Phelps Dodge Corporation	Building the Copper Gallery	10,000.00
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### In-Kind Donations

In addition to the cash donations enumerated above, the Department has received a host of other items including mineral specimens, gemstones, mining property reports, technical publications, maps, construction materials, museum displays and so forth. Thanks to these many benefactors.

The contribution of the Arizona Mining Association to the holiday party given by the Department is appreciated.

We would like to express our sincere gratitude to all our donors and hope they will continue to provide as much assistance as possible in the future.

### Statutory Duty:

The Department shall serve as a source of mining information for this state in matters relating to its mineral resources and monitor current mining and exploration activity.

## Mine Information Center

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The Mining Information Center manages the mine files, databases, and library collections, responds to thousands of requests for information, produces the Department's publications, maintains the DMMR website, and provides assistance and co-operation on projects with other government agencies.

It is logical that in this Information Age, a major focus of the Department is information: collecting it, analyzing and cataloging it, and disseminating it. Information is gathered by field visits, verbal information, and research. Information is evaluated, cataloged, entered into mine files, databases, and library collections. Distribution of information is accomplished through personal contact, seminars, publications, technology transfer, and the operation of the Arizona Mining and Mineral Museum. The information is made available to members of the industry, prospectors, historians, educational institutions, students, environmentalists, other government agencies, and the general public.

DMMR makes field contacts and mineral deposit evaluations and studies market trends and technology to encourage investment in prospecting, exploration, development, and production of minerals.

Industry uses these data to make discoveries and generate jobs, which ultimately adds to the State's economy. Successful projects contribute the largest benefit to the economy in general and tax revenues to state and county treasuries. Exploration projects in themselves, however, also make a significant contribution to the state's economy in the form of purchased labor, equipment, lodging, subsistence, services, supplies, utilities, and tax revenues. This is especially important in the rural communities.

**Website.** The Department's website, [www.mines.az.gov](http://www.mines.az.gov) contains general information on the Mine Information Center and the Museum, as well as technical information and data on mining, prospecting, geology, and mineral rights and mining law. The site contains 56 on-line DMMR publications, news of Museum events, and over 200 links to mining and mineral related sites.

Culminating months of work and preparation, the Department's newly designed website was complete at FY's end and in compliance with GITA guidelines. The website went live in early July 2006, hosted on the Department's own webserver. The site contains significantly increased technical content in the digital library section. In FY2005-06 the website was hit almost 500,000 times. Nyal Niemuth is the webmaster.



### Statutory Duty:

The Department shall promote the development of the mineral resources and industry of this state.



Partial view of booths at PDAC

## Mineral Resource Promotion

Among its other promotional activities, the Department participates in seminars and conferences to encourage exploration and investment in the Arizona mining industry.

### **Prospectors and Developers Association of Canada (PDAC).**

DMMR was an exhibitor at this year's PDAC International Convention, Trade Show and Investors Exchange held in Toronto. This function, the 74<sup>th</sup> annual, is the premier event of its kind. Mineral exploration and mining companies from all over the world assemble here each year. A record 14,500 industry professionals attended this meeting.

Representing the Department at the convention were Dr. Madan Singh, Director and Nyal Niemuth, Chief Mining Engineer. While the main tenet of DMMR was to expose the visitors to the mineral

wealth of Arizona, handouts for other agencies were also distributed. These included the Arizona Bureau of Land Management, the Arizona Department of Commerce, the Arizona Geological Survey, the Arizona Geological Society, the Arizona Mining Association, the Arizona State Land Department, and the University of Arizona Institute for Mineral Resources.

### **Northwest Mining Association Annual Meeting**

Nyal J. Niemuth was a speaker at the 108<sup>th</sup> Annual Meeting, Exposition, and Short Courses in Spokane, Washington this year.

He spoke at the technical sessions, *State and Province Reports*, providing an overview of exploration and production for metals, industrial minerals and energy in Arizona. Total attendance was 1,300, with over 10 percent of those in attendance at the talk.

### **Mining Engineering Article**

DMMR provided the Arizona mining article for the May, 2005 Annual Mining Review issue of *Mining Engineering*.

DMMR wrote the Arizona review article for 2004 for the USGS Minerals Information Series, including updating the map for publication.

### **Society of Mining, Metallurgical and Exploration, Inc.**

Dr. Singh participated in the Annual SME Conference in meeting in St. Louis in March. The conference had 3,156 attendees.

## Advocate Development of Mineral Resources

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### Statutory Duty:

The Department shall advocate the development of mineral resources and the production of minerals and mineral products in this state in support of its objectives.

This duty has now been added to the responsibilities of the Department. In fulfillment of this obligation, letters of support were sent to:

1. Pleasant Valley District Ranger for exploration drilling for uranium by Cooper Minerals/Ashworth Explorations in the Workman Creek area (13 July 2005)
2. ADEQ for Aquifer Protection Permit for the Phelps Dodge Sierrita mine (23 August 2005).
3. Payson Ranger District for exploration drilling for uranium at Promontory Butte by Ashworth Explorations, Ltd.(23 August 2005).
4. Prescott National Forest, Drake Cement RAP, to permit road changes for the limestone quarry, since the environmental impact is minor, but the economic benefits to the community would be significant (30 November 2005).
5. Arizona Strip District Office, US Bureau of Land Management, for allowing grazing in accordance with our policy to permit multiple-use of public lands (13 December 2005).
6. ADEQ for Air Quality Control Permit for the Drake Cement LLC since they will employ the best available technology to control pollutant gases and dust emissions into the atmosphere (27 January 2006).
7. US Bureau of Land Management, Agua Fria National Monument and Bradshaw-Harquahala Planning Area, Draft Resource Management Plan and Draft Environmental Impact Statement, suggesting that some of the areas for gold placer mining were not being given adequate attention, and that mineral extraction, in general, was down-played by stating that these were not being actively developed at present (16 February 2006).
8. US Bureau of Land Management, Arizona Strip Draft Plan/Draft Environmental Impact Statement, for their support of Alternative E, which recognizes the importance of the minerals in the area, but balances those against the environmental requirements (20 March 2006).



### **Statutory Duty:**

The Department shall make surveys of potential economic mineral resources and conduct field and other investigations which may interest capital in the development of the state's mineral resources.

### **Copper Price**

2004 - \$1.34/lb

2005 - \$1.74/lb

### **Molybdenum Oxide Price**

2004 - \$16.41/lb

2005 - \$31.10/lb

## **Surveys of Potential Economic Mineral Resources**

### **Copper and Molybdenum**

Copper prices rose during CY 2005, and the value of the copper produced in the year was \$2.64 billion. Arizona's output of the metal was 61% of the copper mined in the United States, having produced over 1.5 billion pounds. Phelps Dodge mines produced 78% of the copper in the State. The company approved spending \$210 million at its Morenci mine to construct the first commercial scale concentrate leach direct electrowinning facility and to restart the flotation mill. The electrolytic refinery at Miami was permanently closed in 2005. The Safford project got all its permits by June 2006 and will start developing the Dos Pobres and San Juan pits and a heap-leach SX-EW facility, with an expected cost of \$550 million. This will generate 500 construction and 250 permanent jobs. The Tohono mine produced 5 million pounds of copper from existing leach piles in CY 2005. ASARCO was struck by its miners in July 2005; the strike ended in November. During this period the company continued operations with staff and some picket crossers. On 09 August 2005, ASARCO LLC filed for bankruptcy under Chapter 11. For CY 2005 its three mines produced 311 million pounds of copper.

Resolution Copper Company plans to spend \$250 million during the current phase. Shaft 9 will be deepened and shaft 10 sunk. Exploration will continue. A holdup is the Southeast Arizona Land Exchange and Conservation Act of 2005. This needs to be passed by Congress. Mercator Minerals Ltd. has released its contractor and taken over operations itself. All its warrants were exercised, resulting in nearly \$10 million. It has expanded its SX-EW plant and purchased a 20,000-tpd mill from ASARCO. It plans to produce molybdenum in addition to copper. Quadra Mining bought the Carlota mine from Cambior for \$37.5 million in cash and gold. A feasibility study was completed by September. It expects to be producing by 2007. Augusta Resources acquired the Rosemont deposit for \$20.8 million over 3 years. The resource estimate has been completed, but further exploration is continuing. Recently the critical issue of a water-source has been resolved.

Exploration continues in the Monitor and Markham Wash prospects owned by General Minerals, and are being drilled by Teck Cominco. BHPBilliton optioned a third General Minerals' property near Dagoon, but has decided not to develop it, after drilling 3 holes. Redhawk Resources has acquired a position on a 7-square mile land tract in the Copper Creek district. Southern Silver has an option in the Tombstone project, and Nord Resources completed a geophysical survey on the Coyote Springs property.



## Surveys (continued)

### Gold

With gold prices having gone up above \$700 per ounce and still near \$600 at the end of June 2006, there is considerable interest in exploiting the precious metal. American Bonanza has an active drilling program at Copperstone. Golden Arch Resources is working on the Mildred Peak/Jupiter project in Pima County and Terraco Gold is investigating the Golden Eagle/Bonanza area in La Paz County. Galaxy Minerals bought a small mill for its Yellow Jacket mine in Santa Cruz County.

There are also some operators promoting properties that should be regarded with considerable caution.

### Uranium

With the emphasis on clean energy and renewed interest in nuclear power, the price of uranium hit around \$43 per pound of  $U_3O_8$ .

Additionally in 2005, uranium demand outstripped supply by 100 million pounds. Hence there is a surge in the exploration of uranium. In Arizona this occurs mainly in the Arizona Strip and the Colorado Plateau in mineralized solution collapse breccia pipes. Several companies are actively staking claims and drilling in the area. At present no mining operations have begun, but when they do the ore will be shipped to one of the two mills in Utah. One company is, however, contemplating building a mill in this State. Ashworth Explorations has explored in Gila County under options to Golden Patriot and Rodina Minerals, while Concentric Energy and others are

investigating the Tertiary Chapin Wash Formation in Yavapai and Mohave Counties.

### Coal

During the first half of FY 2006, Peabody Western Coal Company operated two coal mines in the Navajo-Hopi area of northeastern Arizona. At the end of December 2005, however, the Black Mesa mine closed because it was supplying only one power plant – the Mohave Generating Station – and that plant ceased operations because it did not install scrubbers to meet air quality requirements, in accordance with a consent decree. There were also complications because of continued water availability for transporting the coal. The Kayenta mine, however, continues to operate and supply the Navajo power plant in Page, AZ. Thus the annual production of 13.5 million tons of coal will now drop to about 8 million tons.



*Low altitude view of two breccia pipes in northern Arizona.*

### **Statutory Duty**

The Department shall conduct studies of the properties and claims of companies and individuals to assist in the exploration and development of mineral resources.

### **Statutory Duty**

The Department shall use its authority in other ways to assist in more extensive exploration and development of the mineral resources of the state.

## **Surveys (Continued)**

### **Industrial Minerals**

During CY 2005, Arizona produced \$570 million worth of sand and gravel and crushed stone, \$1,246.3 million of ready-mix concrete, \$595.3 million of asphalt and concrete products, and \$279.7 of cement and related products, giving a total direct impact on the State economy of \$2.7 billion. The industry employed over 11,200 workers with a payroll of \$515 million. The total direct and indirect impact on the Arizona economy was \$5.1 billion. La Farge North America entered the Arizona market in the metropolitan Phoenix area and Vulcan Materials expanded into the Tucson area.

### **Gypsum**

Arizona is among the top 10 producers of gypsum in the United States. The six operating mines produce about 2 million tons of the commodity per year, worth nearly \$50 million. This is considerably more than it was a few years ago. National Gypsum Co. is planning a gypsum board plant, perhaps in the Eloy area, and will increase its output from the mine near Winkelman. The construction industry is the greatest consumer of gypsum, but it is also used as a soil enhancer in agriculture.

## **Studies of Properties and Claims**

The Department deals with the economic problems of small mines and mine owners on a daily basis. Small mine operators are assisted in a variety of ways and are a major focus of the Department. Field visits and investigations of the small mine properties themselves has been limited by the budget and lack of personnel.

## **Use Authority in Other Ways**

This statute was added by the Legislature to ensure the Department had enough flexibility to promote the development of the mineral resources of the State, and not be limited by the more specific statutes.

#### **Statutory Duty:**

Provide quality mining data, evaluation and assistance relating to promoting mineral development to the legislature, federal, state and local governmental agencies and the public.

#### **Statutory Duty:**

The Department shall participate in conferences, seminars, forums, speaking engagements, public news media and other functions necessary to achieve its objectives.

## **Provide Mining Data Evaluation and Assistance**

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As requested by each entity, mining data is provided to the Legislative Council, legislators and their staffs, the Joint Legislative Budget Committee (JLBC) and office of Strategic Planning and Budgeting (OSPB) economic analysts, the Arizona State Land Department, Department of Administration, Revenue Department, county boards of supervisors, county planning and zoning agencies, and county and city business and industrial development entities as well as the media and public.

Details of these some of activities are mentioned elsewhere in the report.

## **Conferences, Seminars, and Speaking Engagements**

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Examples of some of the varied types of presentations are given below:

**Tucson Section of SME.** Presentation Topic: *Sustainable Development in the Minerals Industry – Concept or Reality*

**Gold Prospectors of Phoenix.** Presentation Topic: *Department's Special Collections*

**Jerome State Park.** Presentation Topic: *Review of Arizona Mining*

**Apache Wells Gem & Mineral Club.** Presentation Topic: *Desert Rockhounding*

**Superstition Mt. Treasure Hunters.** Presentation Topic: *PowerPoint Tour of the Museum*

**Sons of the American Revolution.** Presentation Topic: *PowerPoint Tour of the Museum*

**Apache Junction Superstition Mtn. Treasure Hunters.** Presentation Topic: *Arizona Mining and Exploration Trends*

**Roadrunners Prospectors.** Presentation Topic: *The Department's Special Collections.*



## Speaking Engagements (continued)

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**79ers Lions Club.** Presentation Topic: *Mining and Minerals in Arizona*

**Rockhounds Club West.** Presentation Topic: *Role of Minerals in Our Society*

**MGE Department, University of Arizona.** Presentation Topic: *Suspicious Mining Activity*

**Leaverites Club.** Presentation Topic: *Role of the Department of Mines and Mineral Resources*

**Paradise Valley Lions Club.** Presentation Topic: *Minerals and Mining in Arizona*

**PT Coe Elementary School.** Presentation Topic: *Role of Mining in the History of Arizona*

**Mineralogical Society of Arizona.** Presentation Topic: *Status of Mining Activity in Arizona*

**APS Retirees.** Presentation topic: *PowerPoint Tour of the Museum*

**Sedona Gem and Mineral Club.** Presentation Topic: *PowerPoint Tour of the Museum*

**Desert Botanical Gardens.** Presentation Topic: *Geology of the Grand Canyon*

**Note:** Talks to some of the smaller groups, apart from its educational value, encourages individual participation in prospecting and in the minerals industry of the State.

## Repository of Mineral & Mining Information

### Statutory Duty:

Maintain a repository of mineral and mining information, including databases, books, periodicals, individual mine files, mine map repository files, mining district data and an archive of mine data

DMMR's library includes the Arizona mine file collection, reference library, map archive, and photo collection.

### Mine Files and Special Collections

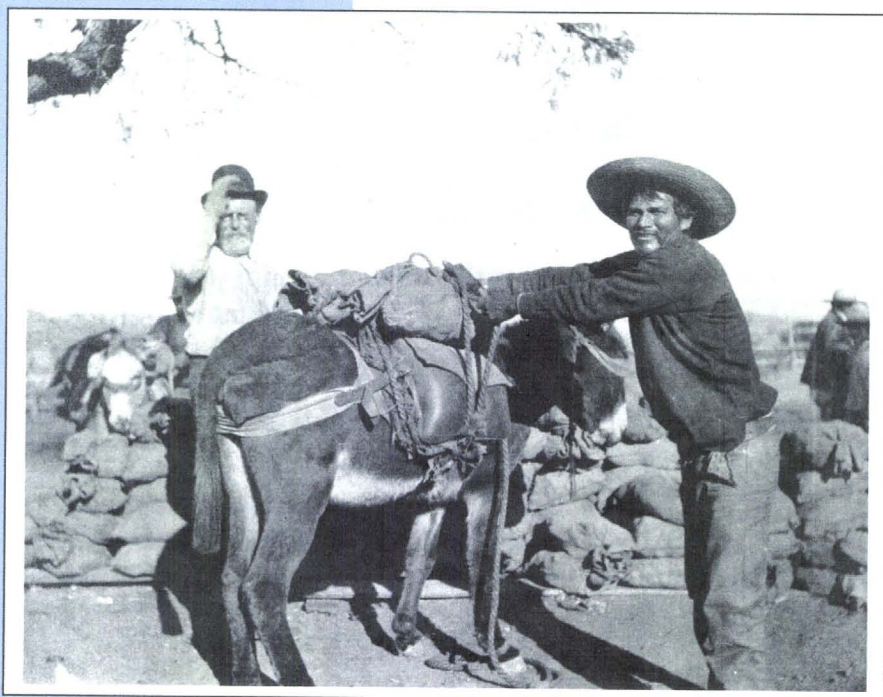
The mine file collection consists of the AzMILS database with over 11,000 records and over 5,000 hard copy files. The files contain information about mine location, mineral content, size, assay and drill data, technical and economic production potential and bibliographies. This data is unique and by far the most-used portion of the DMMR library. Newly developed information is added and additional files/records are created as new mineral occurrences are documented.

### Map Archive

The Department has over 1,700 cataloged mine maps, 3,000 cataloged microfiche maps, over 5,000 mine maps awaiting cataloging, and over 5,000 published mineral resource, geology, and topographic maps.

### Photo Archives

Thanks to volunteers, an estimated 4,500 photos, negatives, and slides have been cataloged and have been scanned into digital format. This formidable task, overseen by staffer Nyal Niemuth, involved identifying the date of each photograph, labeling, photocopying, cataloging, and then scanning each image. The images were photocopied to relieve use of the originals by the public and eventually to provide widespread access via the Department website.



*Partners*

**Section 27-108.**

**Powers and Duties of the Director:**

The director shall receive any monies to support the objectives stated in section 27-101.01 arising from grants, contracts, contributions, gratuities or reimbursements payable or distributable to this state from the United States, from state, county, municipal or other governmental sources or from private persons or corporations.

**BLM Contract**

This duty was clearly stated in HB 2508 that was passed this year.

The Department entered into a contract with the US Bureau of Land Management on 30 September 2005 to "digitize paper mine and mineral documents", primarily on federal lands. The contract is for \$30,000 through 30 September 2006. This is towards the implementation of BLM's objective:

To transfer hard copy mine records to electronic format and provide them to BLM for use in mineral-related actions, (realty, validity, planning, etc.)

DMMR has these documents in its archives and the facilities to perform the work. To meet the requirements the Department hired three part-time archivists, Andrew J. Christensen, Keith A. Halsey, and Donald N. Sehested. The work is being performed under the direction of Nyal J. Niemuth. By the end of the fiscal year, 1,200 mine files relating to four counties – Mohave, La Paz, Maricopa, and Yuma were completed.

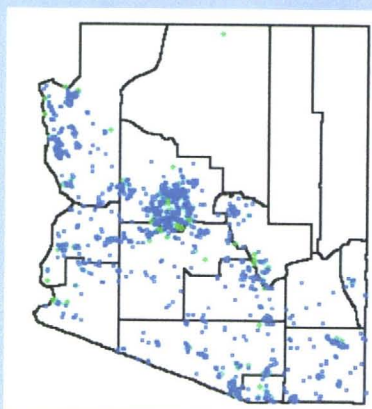
This obligation also meets the Department's goal to digitize its archival material.



### Statutory Duty:

The Department shall publish and disseminate information and data necessary or advisable to attain its objectives

"Arizona's cumulative gold production exceeds 16 million ounces."



Primary and by-product gold occurrences.

From: *Arizona's Metallic Resources – Trends and Opportunities, 2006*

## Publications

### Newsletters

Arizona Mineral Resource, No. 41, - October 2005

Dr. Madan M. Singh appointed Director; Copper industry updates, including record prices; Nyal Niemuth promoted to Chief Mining Engineer; From the Director's Desk; Mineral museum news; CD Teacher Pac released; teacher workshops.

Arizona Mineral Resource, No. 42 - April 2006

The Future of Power in Arizona; Dr. Mary Poulton named to Board of Governors; Tucson Gem and Mineral Show, 2006.

### Circulars

C114 – Arizona Mining Update – 2004, by N.J. Niemuth, 2005. A review of mining activity in Arizona during 2004. Describes copper, gemstone, industrial mineral, and coal production as well as mineral exploration and government news.

C115 – Mining Claim *Forms*, Includes the following mining claim forms: Location Notices for lode and placer claims, Claim Map, Affidavit of Performance of Annual Work, Notice of Non-liability for Labor and Material Furnished, Notice of Intent to Hold Mining Claims, and Attachment for Additional Claims.

C116 – Arizona Gem and Mineral Shows, 2006-2007. Includes date, location, sponsoring group, contact person.

C117 - Earth Science Clubs, 2006-2007, Includes , lapidary, and prospecting organizations.

C118 - Arizona Mining Update, 2005, N.J. Niemuth, A review of mining activity in Arizona. Describes copper, gemstone, industrial mineral, and coal mines as well as mineral exploration and government news.

### Open File Reports

OFR06-23 – Arizona's Metallic Resources – Trends and Opportunities, 2006, by Nyal J. Niemuth, Provides overview of porphyry copper, uranium, gold and volcanogenic massive sulfides deposits and exploration activity. Includes maps of Federal mining claims and Arizona state exploration permits. Includes publications lists and other information from cooperating organizations.

### Statutory Duties:

The Department shall assist federal, state and local governmental agencies and instrumentalities, economic development organizations and gem and mineral organizations.

## Assist Other Agencies and Organizations

---

The Department assists other agencies and various groups almost on a daily basis, hence the specific items for each agency are too numerous to list. The help provided ranges widely, from providing information, serving on committees, presenting materials, doing research on specific topics, to meeting with them for discussions on issues relating to the mining and minerals industries. Examples of presentations made to groups and some of the specific items discussed with the Corporation Commission are mentioned elsewhere in this report.

Meetings with the staff of the Arizona Geological Survey are held frequently, resulting in arrangements to sell each other's publications, sharing office space, providing technical information on a range of projects, and sharing booths and staffs at meetings.

Giving background information and interviews with reporters of the Arizona Republic, Tucson Daily Star, Paydirt Magazine, Bisbee Review, Wickenburg Sun, and other newspapers and journals, are common. With mining being in the news over the last year, calls to DMMR for data have been frequent. The high prices of metals, uranium, and industrial minerals (such as cement and gypsum) have created the buzz. Then, of course, there are requests for photographs of Christmas, Arizona during the winter holiday period, and other archival material when writing about mining ghost towns.

A number of Canadian mining companies are working in the State. Hence we have had several contacts with the Consul and Senior Trade Commissioner, Mr. Doug Paterson. There have been exchanges of information about the projects that are being worked.

DMMR staff served as one of the judges for the Arizona Rock Products Association Community Excellence Awards at their request and was invited to their Annual Conference. Several meetings have been held to discuss progress on one of the Museum exhibits and other issues of mutual interest.

The Director was also invited to the Safety Meeting with industry representatives, that was organized by the State Mine Inspector. Some data on mine locations was also provided to the office.

The above presents a sampling of the interaction of DMMR with a few agencies. The record of cooperative efforts with other departments and organizations is fairly extensive, so only a partial listing of these establishments is given below:

## Assist Other Agencies (continued)

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Arizona is the #1 copper producer in the U.S.!

Arizona is the #2 molybdenum producer in the U.S.!

Arizona the #2 pumice producer in the U.S.

Arizona is the #2 gemstone producer in the U.S.!

Arizona is the #3 perlite producer in the U.S.!

Arizona is the #3 sand and gravel producer in the U.S.!

### AMIGOS

Arizona Board of Technical Registration  
Arizona Business Magazine  
Arizona Corporation Commission  
Arizona Department of Commerce  
Arizona Department of Environmental Quality (ADEQ)  
Arizona Geological Survey (AzGS)  
Arizona Highways  
Arizona House of Representatives  
Arizona State Mine Inspector's Office  
Arizona Mining Association  
Arizona Republic  
Arizona Rock Products Association (ARPA)  
Arizona Senate  
Arizona State Land Department  
Arizona State University  
Arizona Water Resources  
Bisbee Review  
California Division of Mines and Geology  
Consulate of Canada  
Desert Caballeros Western Museum  
Flanders Science Center  
Mohave County Sheriff's Office  
National Geographic  
Navajo Nation  
New Mexico  
Northern Arizona Museum  
Paydirt Magazine  
Rock Products Association  
Society for Mining, Metallurgy and Exploration, Inc. (SME)  
Tohono O'Odham Nation  
Tucson Daily Star  
U. S. Forest Service  
U.S. Bureau of Indian Affairs (BIA)  
U.S. Bureau of Land Management (BLM)  
U.S. Federal Bureau of Investigation (FBI)  
U.S. Geological Survey (USGS)  
U.S. Mine Safety and Health Administration (MSHA)  
University of Arizona  
Utah Department of Natural Resources  
Wickenburg Sun



### **Statutory Duty:**

**Cooperate with the Corporation Commission in its investigations, and administration of laws relating to the sale of mining securities.**

## **Cooperate with Corporation Commission**

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### **Bayou Management Hedge Fund**

On 19 May 2005 Attorney General Terry Goddard froze \$100 million of the assets of Bayou Management – the name Bayou did not become known until June. This was a part of \$450 million collected from investors since June 1996, when the hedge fund was formed. It was secured by a gold-mining claim in Pinal County called Quail 15. There is a Quail 15 claim in Pinal County, but it consisted of “abandoned dirt tracks, an abandoned water tank and an old cattle-loading chute.” No gold mine exists there. DMMR worked with the Corporation Commission and the Office of the Attorney General, providing background information that led to the unraveling of the scam.

### **Potential Gold Mine**

A mining company, which is not registered in Arizona, claims to have a property in the State with extensive gold reserves. In fact, the gold claimed to exist exceeds all the gold mined in Arizona since the precious metal was first discovered in the Territory. The firm has been promoting the proposed mine very actively, mostly in California. DMMR has cooperated with the Corporation Commission in bringing all the facts that it has in its possession to the Commission’s attention.

### **Cinders to Gold**

A company, originally formed to remediate soil for agricultural purposes, using cinders because of their high mineral content, then claimed it had acquired proprietary rights to a technique to concentrate gold from the cinders. Then it signed an agreement with another firm to make this even more efficient. DMMR is keeping abreast of this situation also.

### **Statutory Duty:**

The Department shall maintain a mining and mineral museum as the state depository for collecting, cataloging and displaying mining artifacts and specimens of various ores, gemstones, lapidary material and other valuable mineral specimens.

## **Mining and Mineral Museum**

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Museum Visitation: 41,176 in FY 2005/6

Each year over 20,000 school children tour the Museum.

The Museum addresses the needs of many facets of the industry and the hobbyist – prospectors, educators, rockhounds, lapidaries, and the general public – through the education program, museum exhibits, and special events.

The message of the Museum is that civilization is dependent on minerals, which must be mined, and that Arizona is a major mining state.

### **Education**

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#### **School Tours**

Tours and classes for students and teachers are offered as part of the effort to educate the public about the use and importance of minerals.

The museum has developed a comprehensive minerals education program that reaches thousands of Arizona school children. During 30-minute programs, children are introduced to the beauty and utility of minerals – themes that continue during their activities in the exhibit halls. In FY 2005/2006, 23,561 students visited the Museum for a program.

#### **Outreach Program**

In FY 2005/2006 the Museum Outreach Program visited 27 Arizona schools that, for financial or other reasons, could not come to the Museum. This program underscores both the usefulness and aesthetic appeal of minerals, like the in-house programs.

#### **Lapidary Classes**

The Museum is proud of its lapidary shops, with facilities for cutting, faceting, polishing, and sphere-making. A variety of lapidary classes are offered.

#### **Teacher Workshops**

Throughout the year free workshops are offered on a variety of subjects, such as rock identification, mineral identification, uses of rocks and minerals, crystals and crystal forms. These classes are available to public school, charter, and home school teachers.



*Teaching children how to pan for gold*

### Family Day/Prospectors Day

These twice-yearly Museum functions have proven immensely popular. Events include lapidary demonstrations, jewelry-making, gold panning, and metal detecting.

### Teachers Kits

Every Arizona teacher may receive a free Teachers' Kit containing samples of rocks and minerals, a teacher's manual, maps, posters, and other educational aids. Volunteers assemble the kits, using donated material that they have sized and numbered. The Museum has given out over 10,500 kits to Arizona teachers since the program started.

## Museum Visitation

July	1,839
August	1,564
September	2,671
October	4,073
November	3,661
December	3,413
January	3,344
February	4,381
March	5,300
April	4,015
May	4,834
June	2,081
<b>TOTAL</b>	<b>41,176</b>

**Annual Visitation for  
fiscal year 2005-2006**



## Volunteers

Last year volunteers dedicated **10,824** hours to the Department!



*Volunteers start construction of the operator and feeding chute platform for the stamp mill in front of the Museum.*

### VOLUNTEER ACTIVITIES

- ☐ Data entry
- ☐ Greet visitors
- ☐ Create jewelry to sell in the Museum gift shop
- ☐ Construct outside displays
- ☐ Repair cases and other items
- ☐ Catalog technical data for Mine Information Center
- ☐ Teach silversmithing and lapidary arts
- ☐ Develop and install displays
- ☐ Outreach programs to schools
- ☐ General painting tasks
- ☐ Digitize the photo collection
- ☐ Catalog the photo collection
- ☐ Serve as docents
- ☐ Assemble Treasure Bags to sell in the gift shop
- ☐ Prepare samples for Teachers' Kits
- ☐ Assemble Teachers' Kits
- ☐ Catalog specimens for the Museum collection
- ☐ Photograph the Museum collection
- ☐ Work in the gift shop
- ☐ Family Days activities
- ☐ Cut and polish lapidary material



## New Museum Displays

### Internal

- Erika Richardson collection
- Volcano exhibit
- Millerite display
- Kids Corner - Minerals in your bicycle
- Kids Corner - Minerals in fireworks
- Recent mineral acquisitions

### External

- River of Time - "Calcites of Bisbee"
- State Fair - "Rockhounding in Arizona"
- Long Beach Show - "Discover the Treasure"
- Carnegie Gem & Mineral Show - "Arizona Minerals"
- Tucson Gem & Mineral Show - "New Acquisitions"
- Rockfest - "Psychedelic Rocks"
- Verde Valley Gem Show - "Discover the Treasure"
- Phoenix Gem & Mineral Show - "Solar Systems in Stone"
- White Mtns. Gem Show - "Discover the Treasure"



*Micromount display*

## Activities/Events

**July 15** Teacher Workshop, 9 am – 1 pm; Rock Identification. Instructor – Stan Celestian

**July/Aug** Summer Reading Progrm, *Reading Rocks*, on Tuesday and Thursday afternoons

**Sept. 12** 5,128 Teacher Pac CDs delivered (paid for by grant from Qwest)

**Sept. 24** Booth at North Mountain Park for National Public Lands Day

**Oct. 1** Educators' Fair, ASU-Williams Field

**Oct. 15** Family Day and Mineral Sale

**Oct. 17-18** Susan Celestian attended Professional Development Workshop at Mesa Southwest Museum, by Society of Vertebrate Paleontology: Topic: Conservation of Fossil, Mineral, and Rock collections

Oct. 28 Hosted breakfast at Bill Johnson's Big Apple for APS Hauling Group as thanks for all their help. Food paid for by Friends of the Arizona Mining and Mineral Museum.

Oct. 29 Workshop for Mesa Tribune Tab

## 14<sup>th</sup> Annual Minerals of Arizona Symposium

The symposium, sponsored by the Arizona Mineral and Mining Museum Foundation and the DMMR, provides a forum for professionals and amateurs to share their knowledge of mineral occurrences, habit, and locations.

Each year mineralogists gather for the presentations and field trips. There were 76 attendees at this year's event.

Nov. 3 Hosted a table at the Barbara Bush Elementary School Science Fair. Fluorescent light box, hands-on, rock and mineral samples

Nov. 9 Awarded plaques to State Fair winners

Nov. 11-13 Susan Celestian attended New Mexico Mineral Symposium

Nov. 12 Liz Anderson spoke to Sons of the American Revolution, Sun City. Topic: PowerPoint tour of the Museum

Nov. 28 Susan Celestian presented workshop, Science as Inquiry, to ASU education students

Jan. 4 Susan Celestian judged the 2nd Annual White House Egg Competition at Banner Estrella Medical Center

Feb. 15 Program by Dr. Taijin Lu, GIA mineralogist; methods of distinguishing between natural and enhanced/created minerals

Feb. 18 Family Day (434 attendees)

Feb. 22 Museum staff visited the Ray Mine to collect native copper and chrysocolla for Teachers' Kits

Mar 11 Mineral Symposium (see sidebar)

April 21 Volunteer Recognition Banquet

May 6 Produced a new handout, Apache Tears

June 14 Created a guided floor plan of the Arizona Mining and Mineral Museum for visitors



## BOARD OF GOVERNORS MEETING

Thursday, October 13, 2005

Meeting Minutes FY 2006, First Quarter

Location: Department of Mines and Mineral Resources  
Second Floor Conference Room  
1502 West Washington Street  
Phoenix, AZ 85007-3210

Attendees: Samuel O. Aubrey, Vice Chair; P. K. Rana Medhi, Secretary; Patrick F. O'Hara;  
Madan M. Singh, Director

Absent: David C. Ridinger, Chair; Raymond Grant

Other Staff: Nyal J. Niemuth, Mine Engineer; Susan E. Celestian, Museum Curator

The meeting was called to order by Aubrey at 10.05 AM.

The minutes of the last Special Meeting were postponed, upon motion by Medhi, seconded by Singh.

It was decided that the minutes of Executive Sessions should be taken by the Secretary of the Board.

Singh mentioned that Ridinger had called to request that the Director's Qualifications, as presented in the Statutes, should be discussed but no action taken at this meeting.

Aubrey suggested that the entire discussion be tabled until the next meeting.

Singh presented the Director's report. The Annual Report was submitted to the Governor's Office on August 15, 2005, as stipulated in the Statutes. The Sunset Review by the Reference Committee of the Legislature was held on September 21, 2005. The Reference Committee unanimously recommended continuation of the Department for another 10 years.

A meeting was held with Mr. Barry Harris of the Office of Strategic Planning and Budgeting (OSPB) and Ms. Leatta McLaughlin of the Joint Legislative Budget Committee (JLBC). Rent for the building and other items were discussed.

Nyal J. Niemuth was promoted to Chief Engineer, effective October 01, 2005. Ads for a Mine Engineer, to replace Nyal, were placed.

Niemuth reported that a contract for \$30,000, effective September 30, 2005, had been obtained from the Bureau of Land Management (BLM) "to digitize paper mine and mineral resources." A separate account will be set up to manage these funds.

Celestian handed out the new Teacher Pac CDs. She showed three new postcards with photographs of the museum. She presented details of the museum activities.

A sheet with the activities of Diane R. Bain, Public Information Officer, was handed out.

The date for the next meeting was set for January 17, 2006 at 10.00 AM at the same location.

The public session of the meeting was adjourned at 11.00 AM.

Note: Jacqueline D. Hall took notes for this meeting.

## **BOARD OF GOVERNORS MEETING**

Tuesday, January 24, 2006

### **Meeting Minutes**

#### **Second Quarter FY 2006 (01 October through 31 December 2005)**

Present: David Ridinger, Chairman; Samuel O. Aubrey, Vice-Chair; P.K. Rana Medhi; Secretary; Raymond W. Grant; Madan M. Singh, Director; Nyal J. Niemuth, Chief Engineer; Susan E. Celestian, Museum Curator

Absent: Patrick F. O'Hara, Mary M. Poulton

Visitors: Edward D. Bustya, Genie Howell

Meeting was called to order by Chairman Ridinger at 10:08 a.m.

Chairman Ridinger officially announced his resignation as a member of the Board, and that this will be his last meeting. Everyone wished him well and a full recovery from his knee surgery.

Chairman Ridinger announced the name of new board member Mary Poulton.

#### **Director's Report**

##### **Sunset Review**

During the quarter three meetings related to the Sunset review were held.

On 06 Oct 2005, a meeting on statutes and the budget was held with Rep. Russell Jones and several other invitees. A number of changes were suggested and incorporated. The budget part of the meeting was cursory.

On 20 Oct 2005 a short meeting, initiated by Singh, was held with Rep. Russell Jones. The budget request was explained to him. Madan also assured him that our part of the statute changes would be ready soon.

At Singh's request a meeting was held with Rep. Tom O'Halleran, Chair of the House Natural Resources Committee on 28 Dec 2005. The objective was to find out what he expected at the hearing of his committee.

##### **Budget**

On 12 Dec 2005, a budget meeting was held with Mr. Barry Harris. Some changes were suggested, but were not incorporated.

On 27 Dec 2005, a meeting was finally arranged between Ms. Leatta McLaughlin of JBLC and Mr. Barry Harris of OSPB with regard to a discrepancy in budget. The carryover from FY05 to FY 06 was different in various documents. Mr. Harris was going to come up with a resolution, and let the attendees know the results.

##### **Board**

A Board meeting was held on 13 Oct 2005 in which a report on the first quarter was presented. The minutes of that meeting have been sent to the Board.

### Orientation

As required, Singh attended Orientation and Public Service/Ethics Training sessions on 21 Oct 2005. Dr. O'Hara was at the same sessions, and the idea of security that he wanted discussed originated there.

### Meetings with Lynette Evans

A meeting was held with Ms. Lynette Evans, DMMR liaison with the Governor, in our office on 10 Nov 2005 to discuss the closing of the Black Mesa coal mine at the end of the year. The status of uranium mining in the State was outlined. It was mentioned that several limestone properties, near Tucson, were not being issued permits, and this would impact cement production and costs for construction.

On 14 Dec 2005, Ms. Evans came over to our office for a meeting to discuss an upcoming meeting with a group in the Governor's offices.

A short presentation in the Governor's offices was made regarding the status of uranium on 16 Dec 2005. The meeting was called by Ms. Evans and attended by Ms. Lori Faeth, Policy Advisor for Environmental Affairs, Ms. Virginia Turner, Director Northern Arizona Office, Ms. Marnie Hodahkwen, Policy Advisor for Tribal Affairs, Mr. Aubrey V. Godwin, Director of the Arizona Radiation Regulatory Agency, and Dr. M. Lee Allison, Director of the Arizona State Geological Survey.

### Accounting

Singh met with Ms. Randi Orchard of CSB about accounting discrepancies on 05 Oct 2005, and then again on 15 Nov 2005 to discuss resolution of these issues.

In January 2006, it was discovered that over \$1,000 was due to the Central Services Bureau from the previous fiscal year. This was charged that to that year, and the bill has been paid.

### Personnel

Mr. Nyal J. Niemuth officially took over as Chief Engineer on 01 Oct 2005.

Several interviews were held to fill the vacancy created by Nyal's promotion. Some offers were made but the parties did not accept. The low pay scale was a factor in most cases. A phone interview was conducted with Mr. Edward D. Bustya on 07 Nov 2005. He accepted an offer a few days later. Since he was to move from out of town, he would join on 03 January 2006.

### Policies & Procedures Manual

No known copy of the policies and procedures manual could be found in the Department. A draft of such a manual was prepared and distributed for comment. It is recognized that certain important policies are missing in the document; these will be inserted when they are prepared.

### Presentations

Madan M. Singh made a Powerpoint presentation to the 79er's Lion's Club on 18 Oct 2005, and on "Mining and Minerals in Arizona" to the Rockhounds West Club in Sun City West on 14 Nov 2005.

### Meetings

On 12 Oct 2005 Singh met with Phelps Dodge to discuss the Sunset Review and various items of cooperation. The meeting included Messrs. Kevin Kinsall, Richard Bark and a senior member of the organization, and Ms. Lyn White.

There was a meeting with Mr. Russell "Rusty" Bowers of ARPA on 24 Oct 2005, to discuss mutual cooperation and help in completing the "house" exhibit.



DMMR had a visit by Prof. Zhenou Hu of the Chinese Academy of Sciences, and Prof. Chen Xun, VP of the Guizhou Academy of Sciences. They were accompanied by Prof. Styles of ASU on 26 Oct 2005. The Chinese delegation wanted Arizona companies to cooperate with them on some projects.

On 04 Nov 2005 Scott Donaldson came to the DMMR offices to discuss updating the publication on Mineral Rights.

Discussions of mineral locations of interest in AZ were held with Dr. Harold Linder.

Doug Paterson, Canadian Consul & Senior Trade Commissioner in Phoenix, came to the office on 22 Nov 2005 to find out which Canadian mining companies were working in AZ and see how we may be able to cooperate.

Singh met with several AMA and AMIGOS members on 08 Dec 2005 in the AMA offices, including Mr. Roy Miller, who is an ex-Board member.

Dr. Lee Allison, AZGS, came to the office on 16 Dec 2005; we discussed cooperation on selling each other's publications, sharing booths at the Tucson mineral show, PDAC, offices in each other's location, and other items.

Mr. Al Perry, an ex-Board member, and well-known geologist from Tucson came on 21 Dec 2005.

#### Conferences

Singh attended the AZ Conference Board meeting and the conference on 04-05 Dec 2005; he was elected to the Board.

Both Niemuth and Singh attended the conference.

Nyal J. Niemuth made a presentation about Arizona's mineral status on 07 Dec 2005 to the Northwest Mining Association meeting in Spokane, WA.

#### SME

Since Madan is Chair of the Maricopa Section and Nyal is secretary, we attended the two meetings held in the quarter. On 20 Oct 2005 the subject was "Quality Requirements of Copper in Today's Wire & Cable Industry" and the speaker was Dr. Masoud Garshasb of Phelps Dodge. On 17 Nov 2005 Mr. Richard Ahern of ASLD spoke on "Mineral Leasing on State Trust Lands". The group does not hold a meeting in December because of the AZ Conference.

#### Letters

A letter promoting the Drake Quarry for a cement plant was sent on 30 Nov 2005.

#### Pioneer Museum

AMA arranged a trip to the Pioneer Museum to see how we could cooperate with them on the mining part of the museum. On the visit were Ms. Sydney Hays, AMA, Ms. Angie Harmon, Phelps Dodge, Ms. Kerry Ugalde, AZ State Mine Inspector's office, Mr. Jim Pacek, Arizona Foundation for Resource Education (AFRE) and Singh from DMMR.

#### Museum Exhibits

The concrete pour for stamp mill was on 28 Nov 2005, 6.30 am. Considerable progress has been made in getting this exhibit ready.

### Rock & Roll Marathon

A meeting with Kerri Giard of Elite Racing about P.F. Chang's Rock & Roll Marathon was held on 15 Nov 2005. She brought some of her staff and the caterer on 07 Dec 2005 to survey the area.

### Holiday Party

The DMMR holiday party was held on 15 Dec 2005. Reps. Russell Jones, Jerry Weiers, Judy Burger, & Nancy McClain attended. We discussed the Sunset Review with them and gave them a tour of the facility.

Other attendees included: Rep. Jack A. Brown of the Committee on Natural Resources; Dr. M. Lee Allison, the new Director of the AZ State Geological Survey, although this was his first day on the job (we scheduled a meeting for the next day) along with Dr. Phil Harris; the State Mine Inspector, Douglas K. Martin, and his assistant, Ms. Kerry Ugalde; Ms. Karen Baum of the US Geological Survey from Tucson; Resolution Copper was represented by Ms. Alma Suarez, Community Relations Coordinator; Mr. Roy Miller, ex-Board member; several persons from BLM, & many others.

Two of our current Board members, Mr. P. K. Rana Medhi and Dr. Raymond W. Grant graced the occasion.

### Chief Engineer's Report

Nyal J. Niemuth presented the state of the minerals industry in Arizona.

In response to the effect of closing of the Black Mesa Mine, Madan stated that the mine employed 240 persons normally; on 31 Dec 2005 there were 165 because reclamation was still proceeding. This would reduce further with time. Only a few maintenance personnel will remain.

Carlotta was sold to Quadra. They expect to start setting up in the latter part of 2006 and begin operations in early 2007.

### Museum Curator's Report

There were 670 attendees for Family Day. An attempt was made to get TV coverage, but this was not successful.

New museum kits were handed out.

The \$2.00 fee for museum visitors has not affected their number.

### Vision and Mission Statements

Only Mr. David C. Ridinger had comments. Mr. Ridinger requested that everyone else should send their comments to Madan.

### Retreat

Singh reported that he had checked with the Attorney General's Office; if a quorum of the Board is present, the meeting needs to be an Open Meeting.

The idea was tabled. Some Board Members were going to investigate this further.

### Visitors' Comments

None.

### **Election of Chair**

In accordance with tradition, Mr. Samuel O. Aubrey was unanimously elected Chair for the next year.

### **Next Meeting**

The next meeting was scheduled for 26 April 2006, at 10.00 AM on the 2<sup>nd</sup> Floor Conference Room.

The meeting was adjourned at 11.15 AM.

Notes for this meeting were taken by Ms. Jacqueline D. Hall.



## BOARD OF GOVERNORS MEETING

Wednesday, 26 April 2006

### Meeting Minutes

for

### Third Quarter FY 2006 (01 January 2006 through 31 March 2006)

A plaque for Mr. David Ridinger was shown to the Board before sending it to him.

Dr Mary M Poulton, the new member on the Board, was welcomed.

Minutes of the meetings for the October 2005 and January 2006 were approved.

#### **Director's Report**

##### Sunset Review

The Continuation Bill for the Department was scheduled for hearing by the Environment Committee of the House for 31 January 2006. Several calls were made to determine why it had not been assigned to the Natural Resources and Agriculture Committee. It got withdrawn from the Environment Committee and was then assigned to the Natural Resources and Agriculture Committee; it was scheduled for 13 February. A brief presentation was made. Singh was accompanied by Niemuth, Celestian, and Bain of the Department staff.

The bill came to the Natural Resources and Rural Affairs Committee of the Senate on 22 March. Singh made a presentation. He was accompanied by Niemuth, Celestian and Bain. Representative Russell Jones also presented our case.

The Governor's office had a problem with one of the clauses in HB2508. Ms. Jennifer Boucek, Ms. Lynette Evans, both from the Governor's office, along with Singh, met with Representative Jones in his office on 30 March. There had been some telephone discussions and e-mails on the wording of the clause before the meeting. Mutually agreeable wording was crafted at the meeting.

A handout giving the entire chronology of the Review was given to the Board.

##### AZnet Transition

Several meetings regarding the transition were held before and after the transition, which took place on 17 February.

A meeting with Ms. Sandy Clancy and Ms. Diane Hinkle of AZnet and others was held on 22 February, primarily to discuss costs, although other topics were also talked about.

Mr. Bustya is handling the daily aspects of AZnet.

##### Personnel

Mr. Edward D Bustya, who was introduced to the Board at the last meeting, joined the Department on 03 January 2006.

Ms Tina Mendoza has serious health problems and, therefore, has to take a number of days off. In a small Department like ours this becomes a serious handicap, because other staff members have to pick up the work. This interrupts their work. She was placed under the Family Medical Leave Act. She complained to the Employee Relations Section of the Human Resources Division. She was told that

placing her under that Act was justified. However, Singh was called in to see Ms Nancy Gomez, Manager, and Ms Anna Morena on 31 March. The situation was explained to them.

#### Pay Raises

The Legislature and the Governor agreed upon giving all State employees a pay raise (average 6.3%). Actually this is 2.5% raise on the current rate and an additional \$1,650. This introduced several complexities in the wage structure. These were explained to the agencies by DOA on 28 February.

#### Meetings

Singh was invited to attend the safety meeting that the State Mine Inspector held for key industry executives on 20 January. Highlights of the safety program were discussed and suggestions for changes offered.

A meeting was also held with Mr Douglas K Martin and Ms Kerry Ugalde on 07 February to discuss their participation in the meeting with the Natural Resources and Agriculture Committee.

A meeting was held in our offices with Dr Mary M Poulton, Head of the Department of Mining & Geological Engineering at the University of Arizona on 20 January 2006. She was appointed to the Board of Governors for the Department, but had indicated that she would not be able to attend the 24 January meeting because of a conflict with her teaching schedule. Highlights of the progress during the last quarter were discussed.

Singh met with Dr Victor G Mossotti at the US Geological Survey in Menlo Park, CA on 03 February to determine what funding might be available for performing some contract work for the USGS. Mossotti sounded encouraging about the possibilities, but since then has not responded to e-mails or telephone calls.

A seminar on Benchmarking, attended by Singh, was held in the Department of Administration Building on 20 January.

Niemuth and Singh met with Messrs. Ken Clark and Jim Westburg of the Energy Office of the Department of Commerce to discuss possible cooperation in areas of mutual interest on 10 February. They drew attention to a Conference that they had organized on Energy Management in March.

Dr Patrick F O'Hara came to the office on 10 February to find out the status of progress in the Department.

A group from the Bureau of Land Management (BLM) came to the Department on 10 February.

A talk on Artificially Growing Gems was given by Dr. Taijin Lu of the Gemological Institute of America, in California on 15 February.

A meeting was held in our offices, on 15 March, with Ms Randi Orchard of Central Services Bureau (CSB) of the General Accounting Office (GAO) to provide the input data for the Benchmarking project.

Singh attended a seminar organized by GAO on "Master Vendor File – Best Practices to Prevent Duplicate Payments and Fraud" on 16 March.

On 9th and 23rd March, Singh met with Representative Nancy G McLain to discuss the possibility of encouraging the mining of uranium in the Arizona Strip. Aggressive exploration is progressing, but

there have been a number of articles in the newspapers about keeping the area pristine, and so the groundwork for future mining needs to be laid.

Niemuth and Singh met with Mr Doug Paterson, Consul of Canada in Phoenix, on 24 March, to discuss cooperation between his office and DMMR. There are a number of Canadian companies operating in Arizona and there may be interest on the part of others.

#### Conferences

Niemuth and Singh attended the Prospectors and Developers Association of Canada (PDAC) Conference in Toronto, Ontario, Canada. The Department had a booth which had to be set up on Friday, 03 March. A record 14,500 persons attended that meeting and was very successful. A number of persons stopped by the booth to make inquiries. We were able to take a little time to visit other booths and talk to prospective companies about possibilities in Arizona. We returned on 08 March evening.

Dr O'Hara also attended the conference and came by the DMMR booth several times.

The 14<sup>th</sup> Annual Mineral Symposium, jointly sponsored by the Flagg Foundation and our Museum, was held on the DMMR premises on 11 March 2006. Singh welcomed the guests. Celestian and many of the Museum staff helped in the organization of the meeting.

Singh attended the 2006 Energy Management Conference, subtitled "Managing Demand, Planning for the Future," organized by the Energy Office of the Department of Commerce on 21 March. At the meeting he met with Ms Kris Mayes, Arizona Corporation Commissioner, Mr. Al Burch of BLM and several members of Indian tribes to discuss mineral production on Reservations.

Singh attended the Annual Meeting of the Society of Mining, Metallurgy and Exploration, Inc. (SME) in St. Louis, MO. He participated in committee meetings and the Board of Directors meeting on Sunday and various other committee meetings and sessions through Wednesday, when he returned. The SME meeting had 3,156 attendees and 340 exhibit booths.

#### Presentations

A powerpoint presentation were made by Singh to the Arizona Leaverites on the "The Role of the Department of Mines & Mineral Resources" on 24 January 2006. This was held in the museum in the Department Building; about 50 persons attended. On 07 February he made a presentation to the Paradise Valley Lion's Club at the Deer Valley Airport Restaurant on "Minerals and Mining in Arizona." 16 persons attended.

#### Letters

A letter was sent to ADEQ supporting Drake Cement's application on 27 Jan 2006. Comments on the deficiencies of the Agua Fria National Monument and Bradshaw-Harquahala Planning Area, Draft Resource Management Plan and Draft Environmental Impact Statement, were sent on 16 February 2006. A letter of support for Arizona Strip Draft Plan/Draft Environmental Impact Statement was sent on 20 March.

#### Recommended for Award

DMMR recommended BHP Copper, Inc. for the cleanup efforts after closing the mine. They were suggested for "The Director's Award", "The Hardrock Community Outreach and Economic Security Award", and "The Hardrock Mineral Environmental Award". The recommendation letters were sent on 14 March to the Bureau of Land Management (BLM), which had advertised the awards.



### SME

Both Niemuth and Singh attended a number of SME meetings: on 26 January on "Exploration and Mining Investment Trends in Africa: 2000-2010." The speaker was Dr. George Coakley of the US Geological Survey, Reston, VA; on 16 February, Mr. Eric Mears of Brown & Caldwell spoke about "New Reclamation Regulations for Aggregate Mines in Arizona"; Mr. Terry Tilley of Dynatec Mining Corporation gave a presentation on "Tunneling Methods Under Low Cover Conditions" on 16 March 2006.

### Rock & Roll Marathon

P F Chang's Rock & Roll Marathon was held on Sunday, 15 January 2006. The Department of Mines & Mineral Resources Building was used for the VIP Breakfast and "get-ready" location. The Governor visited the building during the break between events, for coffee.

### Diane R. Bain Activities

Two publications were released and one is in preparation. Posters were prepared for display at PDAC. Some displays are in progress. She attended to 52 visitors and over 500 phone calls.

### Signage

As a matter of information Singh told the Board that the DMMR sign on the front of the building will be changed. Comments on this item, if any, are solicited.

### Arizona Geological Survey (AGS)

DMMR is now selling AGS publications, and AGS will sell ours.

### **Chief Engineer's Report**

Mr Niemuth reviewed the highlights of significant industry events during the quarter and handed out a copy of Open File Report (OFR) 06-25 "Arizona's Metallic Resources – Trends and Opportunities." Also distributed was a copy of the 2005 Annual Review, published in *Mining Engineering*.

### **Curator's Report**

Ms Celestian presented the statistics of students and visitors that came to the museum. There were 434 visitors on Family Day on 18 February 2006; 76 attendees were at the Mineral Symposium on 11 March. Volunteers donated 2697 hours during the quarter. There were 7 Outreach programs. Classes were given in Lapidary (12 students), Silversmithing (6 students), Casting (6 students), and Wire Wrap (14 students).

Dr Poulton announced that there was an Industrial Minerals Conference in Tucson through next weekend, and one on Mineral Extraction Techniques after Labor Day. Also there is a bill to put some funding into Mining Engineering programs.

Dr. O'Hara emphasized the need to convert old data to digital format for future reference.

### **Next Meeting**

The next meeting would have to be set on 24<sup>th</sup> or 31<sup>st</sup> August to suit everyone's schedule.

The meeting was adjourned at 11.40 AM.

The minutes of the quarterly Board Meeting cannot be included in this report, since the meeting will not be held until after the report has been submitted. However, a report on the activities in the quarter that will be presented to the Board is given below.

**Meeting Report for the Fourth Quarter FY 2006 (01 April 2006 through 30 June 2006)**

To be held on Thursday, 24 August 2006

Expected Attendance: Mr. Samuel O. Aubrey, Dr. Raymond W. Grant, Dr. Mary M. Poulton, Dr. Madan M. Singh, Director

Expected Absentees: Mr. P.K. Rana Medhi, Dr. Patrick F O'Hara

Staff: Mr. Nyal J. Niemuth, Ms. Susan E. Celestian

The minutes for the last meeting will be discussed.

**Director's Report**

Sunset Review

An Amendment was introduced in the Senate by Sen. Johnson, to reduce the duration for the next Review to 5 years. On 06 April 2006, Singh met with Senators Blendu and Johnson to get the time period restored to 10 years. That afternoon the Committee-of-the-Whole (COW) of the Senate met. The Amendment was withdrawn.

HB2508 was signed by Governor Napolitano on 24 April.

Budget

On 14 April Singh met with Mr. Mathew Gottheimer, who was temporarily our contact with the OSPB to discuss our budget. An increase due to expanded duties was requested, but Mr. Gottheimer did not want to consider that seriously.

Singh met with Rep. Jones about increased funding on 17 April and then again 02 May. He was sympathetic and said he would bring it up with Rep. Burns and Sen. Flake. Singh met with Sen. Flake on 22 May, afternoon; he said he would try to fund it. On 25 May Singh met with Rep. Burns about the budget. She said she would try to fit it in, but it was late in the cycle. In the end, nothing came of the meetings.

Presentations

Singh made a presentation on the "Role of Mining in Arizona History" to 3 set of classes at the P T Coe Elementary School, on 12 April. Two of them were doubled up and one was a single class, all 4<sup>th</sup> and 5<sup>th</sup> graders.

On 9 June Madan made a presentation to the Mineralogical Society, titled "Minerals and Mining in Arizona."

Meetings

Niemuth and Singh attended the SME meetings on 20 April, 18 May, and 15 June. The titles of the presentations were "Mining to a Reclamation Plan" by Bob Linsell of Kalamazoo Minerals, "New Developments in Mining Safety" by G Ros Hill of the University of Arizona, and "Streamlining the NEPA Process" by Rebecca A Miller, respectively.

Singh and Niemuth also attended the AIPG meeting on 25 April at which Dr. M Lee Allison, Director of the Arizona Geological Survey, was introduced to the group. He elaborated on his plans for the Agency.

A planning meeting of the Arizona Conference Board was held in Tucson on 08 May, in which Singh participated.

On 03 May Singh attended a session organized by the US Forest Service, explaining their approach to new plans for the forests in Arizona. Little attention is being paid to the minerals in these areas. The Forest Service methodology suggests that the majority of the persons at the meetings will determine the direction of the plans. This predisposes that the environmental groups will dominate, since few persons interested in mineral development will attend such meetings.

Singh attended the Mining History Conference on 1-3 June, held in Globe. Niemuth and Singh also attended the AMIGOS meeting, at which Mr. Douglas McAllister, CEO of ASARCO, LLC gave a talk on the company's status and progress through bankruptcy.

On 21 April Singh gave a brief introduction at the Volunteer Recognition Banquet, and on 16 May he gave out some of the awards at the Prospectors' Association meeting.

#### ARPA Community Excellence Awards

Singh was invited to serve as a judge for the Arizona Rock Products Association Community Excellence Awards, held on 05 May 2006. He was invited to attend the ARPA Annual Convention on 22 – 24 June.

#### Seminars

Singh attended ADOA seminars on Procurement on 10 May and on Performance Pay on 15 May. He also went to a Wellness meeting on 11 May. He met with Mr. Greg Vokoun and Ms. Randi Orchard on 28 June to discuss purchasing policy and procedures.

There was a meeting on 05 April called by the Capitol Police to discuss safety plans for the upcoming rallies regarding immigration.

#### Board of Governors

The quarterly meeting of the Board of Governors was held on 26 April. On 11 May Singh met with Chairman Aubrey to discuss the status of the Department.

#### Laws and Regulations

Niemuth and Singh met with Attorney Scott Donaldson to get an update on the work he is doing on the "Laws and Regulations" publication. Considerable work remains to be done.

#### Miscellaneous Events

Employee Appreciation Day was observed on 03 May.

Bain, Niemuth, and Singh attended the Open House for Ninyo and Moore on 11 April. Singh discussed DMMR role with Messrs. Avram Ninyo and G Bruce Kay, Principal Engineers.

#### Field Trips

Niemuth, Bain, and Singh went on the SME field trip to the Phelps Dodge Bagdad mine on 13 May. DMMR Governors Medhi and O'Hara also attended.

Singh went to the Phelps Dodge Miami Rod Plant on 03 June.

#### Architect

The Department would like to finish the southwest corner area in the mezzanine into offices, and get air conditioning there. Further, in the future, there should be an auditorium in the building. (This was



originally planned when the Department was moved into the building.) To get estimates of costs involved, an architect was invited. After attempts to get the architects selected by ADOA failed, Niemuth arranged for Mr. Brent Harris of Candelaria Design to come and look at the situation. He came on 30 June and reviewed the requirements. He came up with suggestions that involved several reviews, but did not offer any short-term solutions or costs.

#### Work on House Exhibit

Singh had discussed the House exhibit with ARPA on several occasions in the past about cooperation to complete the job. ARPA sent a scout to work on the project. Niemuth and Singh met with him on 31 May and 12 June, and Niemuth met with him on another occasion. He decided to not work on the project. ARPA is now looking for a replacement.

#### Purchases

The security system in the Museum needed to be upgraded, the sign on the building had to be redone, and some other purchases were made for the department and the museum.

#### **Chief Engineer's Report**

Niemuth will present the highlights of the industry, and answer any questions that arise. He will comment on the new website.

#### **Curator's Report**

Celestian will give the quarter's statistics for the museum, and comment on any significant events.

The date for the next meeting will be discussed.