Lapidary Classes

Lapidary classes are available at the Museum starting the 1st Tuesday of each month. Classes run for 4 weeks from 1:00 - 4:00 pm each Tuesday. The fee is $25. Contact Doug Duffy, 255-3795, for further information or to sign up.

Arizona Department of Mines & Mineral Resources
1502 West Washington
Phoenix, Arizona 85007

Address Correction Requested

ARIZONA No. 25 April, 2000

Mineral Resource

The Planet Mine

W. "Doug" Sawyer, Director

When someone mentions mining in Arizona, we tend to think of copper, gold, or even silver mining. Towns such as Moreni, Jerome, Globe, Bisbee, and Tombstone come to mind. But in addition to copper, gold, and silver, Arizona has been blessed with an abundance of mineral resources including asbestos, gypsum, clay, uranium, coal, oil, and even iron-rich deposits. One such iron occurrence has been investigated, mapped and drilled at least three times since the turn of the century—the turn of the 20th century.

The mine in question is the Planet Mine located in the Buckskin Mountains of La Paz County approximately 12 miles upstream from the Bill Williams and Colorado River confluence. The Planet Mine began its storied life in 1863 as a copper mine. The high-grade ore was reportedly hauled by mule teams down to the Colorado River and from there to the Gulf of California by boat where it was loaded on ships as ballast material destined for smelters in Wales England. In 1884 a small smelter was reportedly installed and used to process copper ore. From 1884 until 1906, mining of copper was intermittent. During 1902, the New Planet Copper Mining Company was incorporated with the intent of raising at least $1.5 million in venture capital to fund an exploration and development program for the mine.

It was during the early 1900's and during a 1942-43 Bureau of Mines investigation that a number of geologists and mining engineers visited the Planet Mine and began drilling, logging, sampling, and interpreting the local geology. Based on their work, the basal rocks in the vicinity of the Planet Mine are comprised of two types—an older gneissic basement complex and a younger series of schist and limestone. The older and younger rocks are separated by what was thought to be a low angle thrust fault, but has since been determined to be a detachment fault - the Buckskin-Rawhide. The mineralization occurs almost totally in the lower- most portions of the younger series of rocks where mineralizing solutions have replaced the limestone. The copper mineralization consists of chrysocolla, malachite, and azurite and is found as discontinuous lenses, small veins, and other irregular bodies. The iron mineralization consists of specular hematite and sparse pyrite.

It was the discontinuous nature of the copper mineralization that led to the demise of the copper mining operations. All readily accessible copper ore was mined and shipped by about 1920. An estimated 50,000 tons of copper ore averaging nearly 10 percent copper was produced from the mine. The owners of the mine, New Planet Copper Mining Company, largely ignored the iron mineralization—although the Colorado Fuel Company sampled the mine for iron in 1906. It wasn't until the strategic minerals efforts conducted during World War II, that the iron mineralization was considered.

During 1942-43, the United States Bureau of Mines in Report of Investigation 3982 conducted a churn and diamond drilling campaign to determine the extent of iron mineralization. The drilling consisted of twelve churn holes with a total of 3,742.5 feet of drilling and ten diamond core holes with a total of 569.4 feet of core drilling.

A re-analysis of the results of the churn drilling revealed a conservative 11.5 million ton zone of iron mineralization that is approximately 175 feet beneath the surface with an areal extent of approximately 1800 feet by 800 feet and 20 to 265 feet thick. The average iron content is 23 percent. The results of diamond drilling revealed a conservative 1.5 million ton zone of iron mineralization that is exposed near the surface with an areal extent of approximately 1200 feet by 250 feet. The average iron content is 43 percent.

The table on page 2 shows iron occurrences in the State. There is currently one active iron producer, the Iron Channcelor in Yavapai County produces hematite for pigment. Until recently the Swansea, adjacent to the Planet in La Paz County, also produced hematite for pigment.

The Planet Mine is one of over 6,000 mine files on record at the Department of Mines and Minerals. We invite you to either stop by and review our files or call for more information.

IRON IN ARIZONA

County	Primary	Other Occurrences
Apache	1	1
Cochise	2	2
Coconino	1	3
Gila	34	12
Graham	9	3
Greenlee	0	0
La Paz	27	25
Maricopa	8	38
Mohave	10	82
Navajo	8	3
Pima	6	2
Pinal	23	15
Santa Cruz	4	3
Yavapai	28	66

Publicaions

The revised edition of *Manual for Determination of Status and Ownership, Arizona Mineral and Water Rights* (Special Report 23) is now available, updated by its author, John Lacy of DeConini, McDonald, Yetwin & Lacy. The lengthy name of the publication descibes its function quite well; the manual can be used to determine the status and ownership of mineral and water rights in Arizona through the use of public records.

The publication inlcudes sample master title plat and mining claim indexes and illustrations of legal subdivisions, lotting, and townships.

The manual is available at the Department office for $3.00 or $4.50 if mailed.

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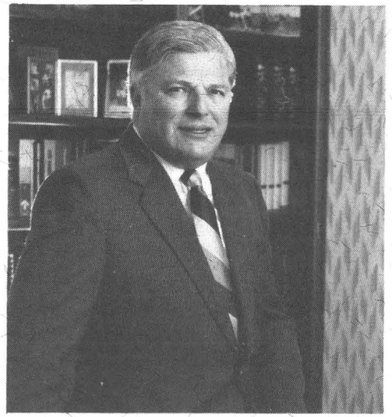
The *Directory of Active Mines in Arizona - 2000*, should be available by the mid-May. Call the Department to check before you order, or request your order be held until the 2000 edition is available.

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



James Miller – New Board Member

Governor Jane Hull appointed James W. Miller to the Department's Board of Governors, replacing William Miller whose term had expired. James Miller is Vice Chairman of CTI, a transporter of bulk commodities in the Southwest. Prior to CTI, Miller worked for 20 years as Chief Chemist for Phoenix Cement. He also serves on the board of the Amigos Trade Association and is a member of the Motor Carrier Advisory Committee.

Miller, who lives in Tucson and works in Rillito, has a wife, Dale, and 4 grown children.

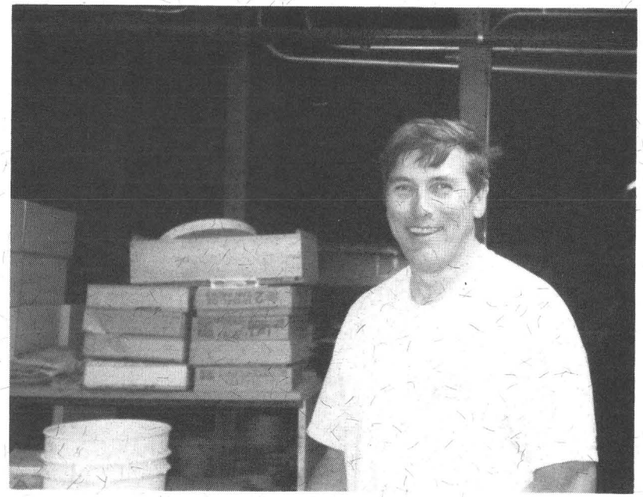
The Department is delighted to have an Arizona industrial minerals authority added to our Board of Governors.

Charlie Connell – Volunteer Extraordinaire

For the past seven years the Museum has benefited from having its own one-man construction department. While working full-time for APS, Charlie Connell has managed to log over 4000 hours of volunteer work, doing everything from changing light bulbs to installing the Boras Headframe. Charlie puts up shelving, paints, welds, sandblasts, transports, cleans, and repairs. He has crushed thousands of pounds of minerals for teachers' kits, built shelving, transported donations, repaired display cases, constructed storage rooms, and collected minerals specimens for the Museum.

Besides doing the heavy, manual-labor jobs that other people avoid or are unable to do, Charlie also has the ability to co-ordinate and plan projects for the Museum and to tap into skilled (free) labor from his personal contacts.

Charlie is Secretary of the Department's Advisory Committee and has served on the Museum's Strategic Planning Committee. He is a past president of the Arizona Prospectors Association and a member of the Arizona Mineral and Mining Foundation.



"Charlie is an invaluable volunteer," says Susan Celestian, Curator, "not only is he self-motivated and dedicated, he is tireless. Our outdoor exhibits are on-site and completed primarily due to his efforts and leadership." The 10-ton Boras outdoor display, including headframe, cages, track, sheave wheels, and hoist, had to be transported from Bisbee, sandblasted, welded, painted, and assembled – a six-year project.

His current projects inlcude building a square set in the Museum mining room and setting up a stamp mill for the outdoor display.

"I enjoy helping out," Charlie says.

Since January 1 of this year 5,863 school children have visited the Museum and been given programs! Approximately 150 per day are scheduled for the next two months!