FM-TGMS-MSA
SYMPOSIUM ON COPPER AND COPPER MINERALS

18th ANNUAL
MINERALOGICAL SYMPOSIUM

10:15 A.M. to 1:15 P.M.
Saturday, February 15, 1997
PROGRAM

10:15—10:25 am  Introductory remarks—Symposium Chairperson
                 Dr. Karen J. Wenrich

10:25—10:50 am  The chemistry of the secondary copper phosphates and silicates
                 Dr. James L. Sharpe and
                 Dr. Peter A. Williams*

10:50—11:15 am  The mineralogy of the Caledonia mine,
                 Ontonagon County, Michigan
                 Tom Rosemeyer

11:15—11:40 am  Chalcolite from the Flambeau mine,
                 Ladysmith, Wisconsin
                 Casey L. Jones and
                 Dr. Gene L. LaBerge

11:40 am—12:05 pm Occurrence of turquoise group minerals in
                 the eastern United States
                 Dr. Henry Barwood

12:05—12:30 pm  New Mexico copper minerals
                 Ramon S. DeMark and
                 Paul F. Hlava

12:30—12:55 pm  Copper minerals in the Grand Canyon, Arizona
                 Dr. Karen J. Weinrich* and
                 Wayne C. Leicht*

12:55—1:20 pm   The supergene copper minerals of Bisbee, Arizona
                 Richard W. Graeme

1:20—1:45 pm    Philolithite, a new mineral from Långban
                 named in honor of the Friends of Mineralogy
                 Dr. Anthony R. Kampf*, Dr. Paul B.
                 Moore, Dr. Eric Jonsson, Dr. P. K. Sen
                 Gupta, and Dr. George H. Swihart

INTRODUCTION
The 18th annual Tucson Mineralogical Symposium, sponsored
by the Friends of Mineralogy, the Tucson Gem and Mineral
Society, and the Mineralogical Society of America, is to be held in
conjunction with the 43rd Tucson Gem and Mineral Show on
Saturday, February 15, 1997. Copper and Copper Minerals are the
featured minerals at the 1997 Tucson Show, and are the subject of
the 1997 mineral symposium.

The word copper comes from the Greek kyprios, for the island
of Cyprus, where some of the earliest mining of copper occurred.
There are over 440 copper minerals reported in the Glossary of
Mineral Species. The majority of these, particularly the supergene
mineral species, occur in various shades of green or blue. The
brilliant blues and green of azurite and malachite and the red of
cuprite commonly give them prominence in many mineral species.
Although a green color usually results when copper forms
minerals with uranium, some minerals, such as cuprosklodowskite,
tend to a yellowish green. With the exception of chalcocite,
bornite and covellite, the primary and secondary copper sulfides
tend to be dull and fine-grained, in shades of black, brown and
gray.

Copper ores are found throughout the world, but in the United
States when copper is mentioned two areas usually come to mind:
Arizona and the Keweenaw Peninsula, northern Michigan. Al-
though Michigan is prominent for its massive native copper,
Arizona is equally famous for its high-grade vein deposits, such as
Bisbee, and its huge open pit mines of low-grade porphyry copper
that have yielded over 54% of the total U.S. copper production.
Although spectacular mineral specimens are not, as a rule, found
in low-grade sulfide deposits, colorful and exotic minerals have
come in gratifying abundance from the oxidized portions of many
of these deposits, such as Morenci and New Cornelia (Ajo).

The papers for this symposium discuss various copper deposits
across the United States and in Australia.

K. Wenrich