

F friends of **m** mineralogy colorado chapter



**Friends of Mineralogy - Colorado Chapter
Newsletter No. 10, April 14, 1994**

**April Meeting: 7:30 p.m. Thursday, April 14, 1994
Denver Museum of Natural History
VIP Room of the Cafeteria
(enter through employees entrance on the north)**

Board Meeting at 6:30 before April Meeting in the cafeteria.

**MINERALOGY OF BOULDER COUNTY TELLURIDES
Bruce Geller**

Bruce is a new member of the Denver Chapter and we welcome the opportunity to hear about his research on this well known Colorado area.

ALERT--WARNING--THE GOCHA'S ABOUT TO BITE ALL MINERAL COLLECTORS

**PUBLISHED IN THE FEDERAL REGISTER Vol. 59, No. 32/ Wednesday
February 16, 1994 / Proposed Rules**

261.9 Property administered by the Forest Service

Except as provided by special use authorization, contract, approved plan of operation, or Federal law or regulation, the following are prohibited.

(a) Disturbing, damaging, excavating, digging, removing, transporting, possessing, buying, selling, bartering, or offering to buy, sell, or barter, any natural feature or other property of the United States.

(b) Disturbing, damaging, removing, transporting, possessing, buying, selling, bartering, or offering to buy, sell, or barter, any plant that is classified as a threatened, endangered, or sensitive species.

(c) Disturbing, damaging, excavating, digging, removing, transporting, possessing, buying, selling, bartering or offering to buy, sell, or barter, any fossil or other paleontological resource; or prehistoric, historic, or archaeological resource, structure, site, artifact, or property.

(d) Entering any building, structure, or enclosed area owned or controlled by the United States, without permission of a Forest officer, when such building, structure, or enclosed area is not open to the public.

(e) Using any pesticide except for personal use as an insect repellent or other minor uses.

(f) Possessing, duplicating, using, or allowing the use of any Forest Service lock or key without permission of a Forest

officer.

(g) Accessing or using any computer system or computer network owned, leased, or controlled by the Forest Service without permission of a Forest officer.

(h) Using, damaging, destroying, altering, copying, or deleting information, data, or programs stored in any computer system or computer network owned, leased, or controlled by the Forest Service with out permission a Forest officer.

(i) Performing or allowing to be performed any action prohibited by a scenic easement owned by the United States, or failing to perform an action required by such easement.

(j) Removing any mineral or mineral material.

This set of proposed rules contains 13 pages covering all things i.e. sanitation, operation of vehicles on roads and off roads, discharging fire arms or using any other implement capable of taking human life---etc

The future of rockhounding is in dire jeopardy if all the things we do in the normal activities of our clubs and shows are prohibited.

THE DEADLINE FOR WRITTEN COMMENTS IS APRIL 16, 1994

Send written comments to: **Jack Ward Thomas Chief (5300)
Forest Service, USDA
P. O. Box 96090
Washington D.C. 20090-67090**

Also Phone **Katheryn Toffenetti
Office of the General Council
Natural Resources Division
202-720-2651**

The Forest service feels that the total mineral hobby including dealers, collectors, shows etc has a value of less that \$100,000,000.00. This allows them to do this with out the approval of congress. Contact your congressional representatives and tell them your concerns as well.

The next FM meeting is on **May 12, 1994**. This is our annual auction night. Start selecting your material to donate or sell now. We need to raise money to finish the update.

At its last meeting the Greater Denver Area Gem and Mineral Council voted to accept the application of the Bead Society to be a member of the council.

If your label had a red line on it this is your last news letter until after your 1994 delinquent dues are paid!!!!!!!!!!!!
ONLY PAID UP MEMBERS CAN SELL ITEMS AT THE AUCTION! May 12, 1994

The Colorado of Gem and Mineral Societies is now working on a project to have a Mineral Park in Colorado similar to the Montana Crystal Park. They are asking for volunteers to work on a committee to investigate the feasibility. If you are interested in more information or want to help please contact Ray Lundin 1710 G Street, Golden CO 80401

FM Colorado Chapter does not belong to CFGMS. The chapter voted to drop our membership a few years ago when they tried to raise the dues to an unreasonable amount. The dues are now \$20.00 per year for up to 100 members in a club.

On the back of this page is a map that explains where the July 1 thru July 4, 4th annual rock swap and field trip meet will be held. It is sponsored by the Rock Springs Gem and Mineral Club. For more information please write or Phone Russ Sims, 114 Bellview Drive, Rock Springs WY 82901, 307-362-5899. They will be camping at the Big Sandy Reservoir. Feel free to come for a day or the entire weekend.

Last call! The photo committee has completed 98% of the pictures for the Colorado Update. If you have or know of a specimen that should be considered please contact Dan Kile or Ray Berry **now**.

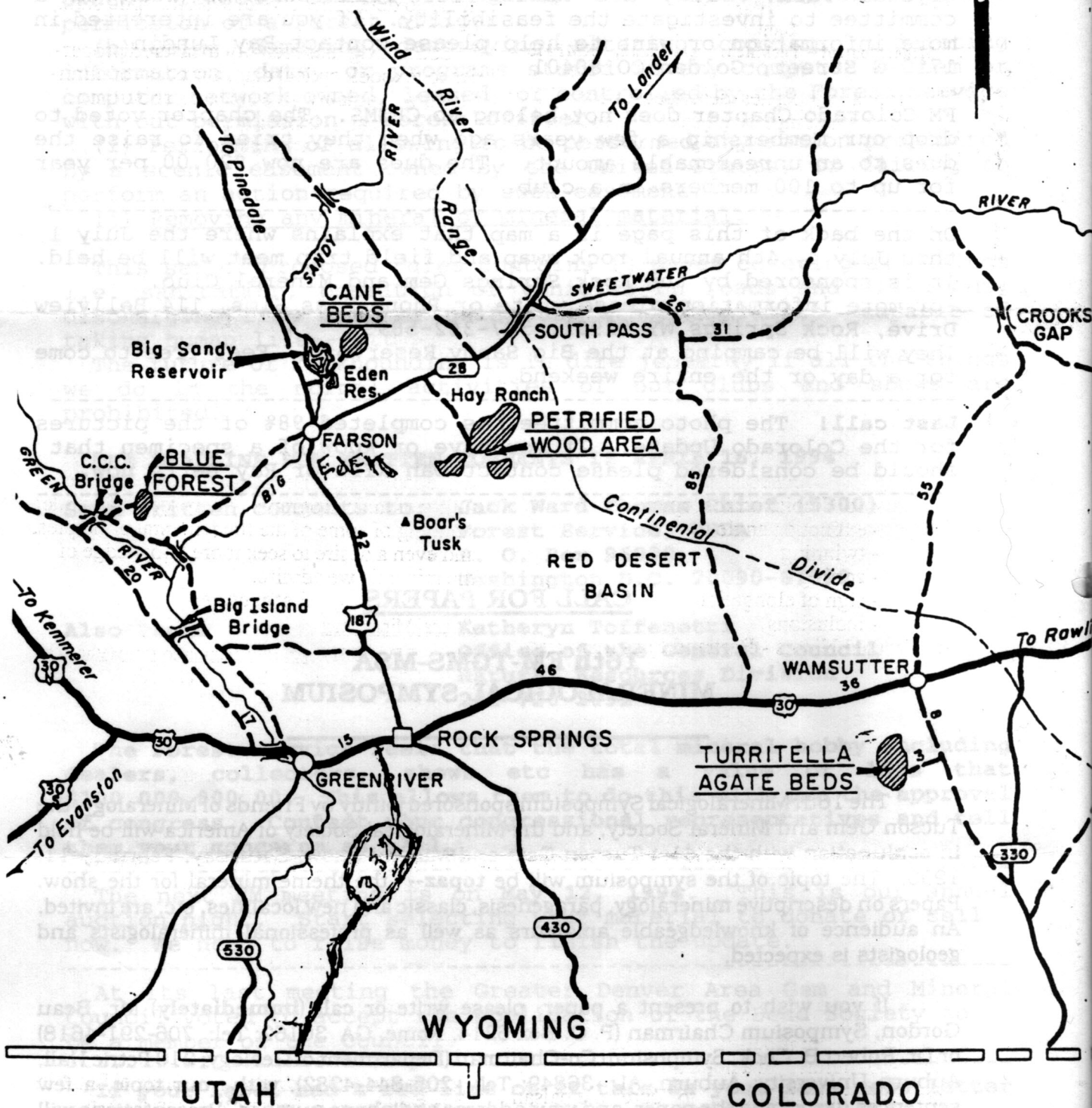
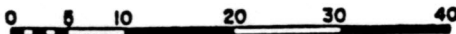
CALL FOR PAPERS

16th FM-TGMS-MSA MINERALOGICAL SYMPOSIUM

The 16th Mineralogical Symposium sponsored jointly by Friends of Mineralogy, the Tucson Gem and Mineral Society, and the Mineralogical Society of America will be held in conjunction with the 41st Tucson Gem and Mineral Show, Saturday, February 11, 1995. The topic of the symposium will be **topaz**-- the theme mineral for the show. Papers on descriptive mineralogy, paragenesis, classic and new localities, etc. are invited. An audience of knowledgeable amateurs as well as professional mineralogists and geologists is expected.

If you wish to present a paper, please write or call (**immediately**) Mr. Beau Gordon, Symposium Chairman (P. O. Box 6214, Rome, GA 30162; Tel: 706-291-4618) or Dr. Robert B. Cook, Symposium Co-Chairman (Department of Geology; 210 Petrie Hall; Auburn University; Auburn, AL 36849; Tel: 205-844-4282), with your topic, a few sentences describing the paper, and your address and phone number. Presentations will be 15 or 20 minutes in length followed by a period for questions. Upon acceptance of topics all authors will be required to submit a substantive 200-300 word abstract by September 1st, 1994 (**firm date**). Those abstracts will be published in the January-February issue of the Mineralogical Record (subject to the approval of the editor), which will be available for sale at the 41st Tucson Gem and Mineral Show.

SCALE OF MILES



UTAH

WYOMING

COLORADO

GEM AREAS NEAR

Optical Identification of Minerals - The Petrographic Microscope

Part IV

Daniel E. Kille

Mineralogical Technical Chairman, RMFMS

The optical properties described in Part III of this series are summarized below; such information is readily accessible from a number of textbooks on optical mineralogy; many of these are older versions that are inexpensively obtained in used bookstores. Phillips, Bloss, Rogers & Kerr, Nesse, and Heinrich have all published excellent works on the subject.

SUMMARY

Observations made with the Petrographic Microscope

- a. Polarizer only
 - refractive index
 - color
 - dichroism/pleochroism (change of color with rotation of mineral)
- b. Crossed Nicols; orthoscopic
 - extinction angle
 - twinning
 - zoning
 - sign of elongation
 - inclusions
- c. Crossed Nicols - Bertrand Lens (convergent light)
 - crystal system (from interference figure)
 - dispersion (from interference figure)
 - optic orientation with respect to plane of microscope stage
 - 2V angle (biaxial minerals)
 - optic sign

Simplified Protocol for Determining an Unknown Mineral

Grain Mounts.

1. Crush/grind the mineral in a mortar & pestle; sieve to 140-200 mesh.
2. Sprinkle grains on a glass slide. add a drop of balsam (for permanent mount) or immersion oil of known refractive index. Place coverslip on preparation; if balsam is used, carefully heat for 8-10 minutes on a hotplate at a low-moderate temperature (~200°C.) to "cure" the balsam. Stop if bubbles begin to form.
3. Examine grains, first under uncrossed polars to determine color, dichroism, refractive index,

then under orthoscopic/crossed polars to determine extinction angle, twinning, etc., finally under conoscopic observation for interference figure to determine crystal system, optic sign, 2V angle, etc.

4. Comparing these readily measured properties to textbook optical data, a process of elimination will quickly give at least a short list of possible species, if not a presumptive or even definitive identification of the mineral in question.

Thin Sections.

Thin sections are best prepared by any number of commercial preparers across the country. Cost is nominal, about \$10 -12 per slide. Rock type, constituent minerals, paragenesis, alteration, and other petrographic features can be determined from such preparations.

Conclusion

Optical mineralogy is a cornerstone of the science of mineralogy, integrating crystallography, chemistry, and physics into one endeavor. It is hoped that this short dissertation will encourage, if not an appreciation for the utility of the petrographic microscope, an understanding of some of the fundamental principles, and even a desire to seek more knowledge of the minerals we admire.

References

Optical Mineralogy

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- Heinrich, E.W. (1965). Microscopic Identification of Minerals. McGraw-Hill, New York, 414 p.
- Kerr, P.F. (1959). Optical Mineralogy. McGraw-Hill, New York, 442 p.
- Nesse, W.D. (1991). Introduction to Optical Mineralogy. Oxford University Press, New York, 335p.
- Phillips, W.R. (1971). Mineral Optics. W.H. Freeman & Company, San Francisco, 249 p.
- Wahlstrom, E.E. (1969). Optical Crystallography. John Wiley & Sons, New York, 489 p.
- Fleischer, M., Wilcox, R.E., Matzko, J.J. (1984). Microscopic Determination of the Nonopaque Minerals. U.S. Geological Survey Bulletin 1627, 453 p.
- ###### Petrography
- Williams, H., Turner, F.J., Gilbert, C.M. (1954). Petrography: An Introduction to the Study of Rocks in Thin Section. W.H. Freeman & Company, San Francisco, 406 p.
- Moorhouse, W.W. (1959). The Study of Rocks in Thin Section. Harper & Row, New York, 514 p.