

the
**Mineralogical
Record**

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May-June 1984
 Volume Fifteen, Number Three

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Mailing addresses & phone nos.

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Editing, advertising
 Wendell E. Wilson
 Mineralogical Record
 4631 Paseo Tubutama
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 602-299-5274

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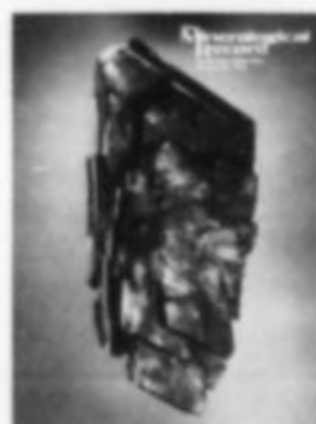
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COVER: VIVIANITE crystal measuring 4.8 by 6.0 by 14.3 cm, from Morococala, near Huanuni, Oruro, Bolivia. Tony Jones and Gary Nagin specimen; photo © 1984 by Harold and Erica Van Pelt, Photographers, Los Angeles. For more on this find see vol. 14, p. 388-389, and vol. 15, p. 45.

notes from the EDITOR

SECRET NOTICE

Psst! Come over here, I've got some news you won't believe. Nobody else is listening, are they? Good. Now, get this: Peter Bancroft's much ballyhooed book is finally going to the printer! SHHH! Not so loud! That's right, the one with a *hundred* chapters on famous gem and mineral localities. Has it got color? Only about 300 superb color photographs of the finest specimens, and a large number of those by Harold and Erica Van Pelt too. Locality and historical photos? Just another 600 or so! That's right, it's *got* to be a big book, nearly 500 pages, 9¼ x 11 inches (okay, okay, 23.5 x 28 centimeters). And it'll be easy to read, largely non-technical, with a lot of history and lore. You said it: wow! It has to be the greatest thing since hammer handles.

Ah, but here's the *real* inside info. Whereas it's true that copies won't be ready for delivery until sometime in July, the *Mineralogical Record* is gearing up *now* to start taking orders. And if you get yours in before July 15, Peter Bancroft will personally autograph your copy for you. The price: \$60 plus \$4 postage per copy. Send it to the *Record* Book Department in Carson City, NV (P.O. Box 1656, 89702). Ask for *Gem & Crystal Treasures*.

Hm? The *leather* edition?! Good grief, who told you about *that*? How can we maintain exclusivity for our classiest customers if people keep leaking such critical information? No, I really must go, I couldn't possibly . . . oh . . . all right. If you'll please let go of my leg first. Thank you. Well, it's this way. We're having a few copies hand-bound in soft leather with a lot of beautiful gold stamping, blind embossing, and a fancy presentation page hand-tipped in, with the buyer's name inscribed on it by a professional calligrapher, and then signed by Peter. About a hundred books will be done up to start, maybe another batch following that if too many people find out about it. The price is \$225 plus \$5 postage and insurance per copy (foreign postage and insurance, \$25).

There now, are you satisfied? I hope so. Just please keep it quiet, okay? And don't say I never gave you a hot tip.

ITALIAN JOURNAL

The *Mineralogical Record*, by special arrangement, now serves as the American agent for the Italian mineralogical journal *Rivista Mineralogica Italiana*. Payment for subscriptions (\$15 per year, surface mail postpaid) and for back issues may now be made by your personal check directly to us. This is a very attractive little magazine, with much color photography and a nice approach to minerals and localities.

MINERALIEN MAGAZIN TO MERGE WITH LAPIS

After twelve years of publication, the German journal *Mineralien Magazin* has ceased publication with their December 1983 issue, and has been purchased by *Lapis* magazine (Christian Wiese Verlag). The formal announcement indicates that these two publications will be merged, but it remains to be seen how much the successful *Lapis* will actually be changed as a result. Certainly their subscriber lists will be merged, at least, so that *Lapis* will be mailed out to complete unexpired *Mineralien Magazin* subscriptions.

Mineralien Magazin, in spite of its title, actually devoted about half of its space to fossils. In this respect it may have been stretched

too thin. Nevertheless it did carry much about minerals and localities. A complete set, 1977-1983, will now become a mineralogical collector's item of some rarity. Some (not all) back issues are still available from the publisher (Kosmos-Verlag, Abt. 45, Postfach 640, D-7000 Stuttgart 1, West Germany), at least for the present, including all issues from 1980-1983 and a smattering of issues from 1978-1979. Anyone with a chance to complete a set of this now-defunct mineral journal would be smart to do so.

THE RECORD AT SHOWS

As the keen-eyed reader of our masthead will have noticed several issues ago, we have a promotions manager on the staff now. She is Gale Thomssen, whose job it is to arrange for booth space (usually complimentary) at shows, and also to obtain volunteers who would like to work for us at such shows. This is something your overworked editor and circulation manager have simply never had time to do, despite many kind offers of space from show people in previous years.

Even Gale, of course, has not been able to check out every show around the country. So we're asking for your help and advice: are you associated with a gem and mineral show which might be willing to provide some table space for the *Mineralogical Record*? If so, please drop us a line. Perhaps you are not on a show committee, but know of a local show you'd be willing to work at for us. Let us know. If you wish to volunteer, remember that you will be representing the *Record*, and so a commitment is necessary: prompt arrival before the show opens each day, a neat and orderly booth never left unattended, courteous service to all showgoers, and accurate record-keeping and accounting promptly turned in afterwards. We will provide a complete kit of materials for the booth, including a list of answers to odd questions people might ask ("How much is a 3½-year airmail subscription to Gambia?"). We want the *Record* to be a part of more shows, if you'll help us do it.

We also want to offer our sincere thanks to those organizations which have, during the past year or so, allowed space for us at their shows. These include:

The California Federation of Mineralogical Societies and the Santa Clara Valley Gem and Mineral Society (Cal Fed Show in Santa Clara).

The Mineralogical Society of Southern California (Pasadena Show).

The Michigan Mineralogical Society (Detroit Show).

The Tampa Bay Mineral and Science Club (Tampa Bay Show).

The Houston Gem and Mineral Society (Houston Show).

The Denver Council of Gem and Mineral Societies (Denver Show).

The Midwest Federation of Mineralogical and Geological Societies, and the Kalamazoo Geological and Mineral Society (Midwest Fed Show at Kalamazoo).

The San Francisco Gem and Mineral Society (San Francisco Show).

The Cincinnati Mineral Society (Cincinnati Show).

Mineralientage München Fachmesse GmbH (Munich Show).

Tucson Gem and Mineral Society (Tucson Show).

Watch our show ad to see which future shows we'll be represented at, then be sure to stop by the booth and say hi.

TENNIS TOURNAMENT AND PARTY

There are two other events which fall within the purview of the promotions manager: the annual Tennis Tournament at the Tucson Show, and the annual *Mineralogical Record* Special Friends Party at the Tucson Show (paid for in large part by proceeds from the tennis tournament). The Special Friends Party is something we tried at this last Tucson Show, just as a way of saying thanks to all

(continued on page 147)

the
Munich Show



Bavarian charm, the fascinating city of Munich, and the attractions of Europe's premier mineral show make an unbeatable combination for an October get-away. Here's what the first-time traveler to the famous Mineralientage München (Munich Mineral Days) can expect to encounter.

INTRODUCTION

Every American mineral collector has heard of the Munich Show, and longed to go there someday. But perhaps the many unknowns, especially for someone who has never visited Europe before, have caused some people to hesitate. The purpose of this article is to restore dauntlessness to the daunted by detailing exactly what to expect, what to prepare for, and what to eagerly anticipate. The only real barrier is the cost of a plane ticket and a few nights in a hotel; everything else can be easily managed.

GETTING THERE

Be sure to obtain your passport and make your plane reservation in plenty of time. Expect anything from a pleasant Indian Summer to a snowy premature winter. Bring comfortable shoes and a German-English pocket dictionary.

The jet-lag can be rather severe. With Los Angeles as a starting point, there is an 8 or 9-hour time change (depending on daylight saving time, which typically reverts while you are in Germany). The flight itself is also a test of endurance: 11½ hours from Los Angeles to Frankfurt, an hour to change planes, and an hour from Frankfurt to Munich, for a total of 13½ hours, not counting time to and from the airports, clearing customs, claiming luggage and arranging

for a rental car. The whole trip, from home to hotel room, can easily take 15 or 16 hours and leave you feeling drained. So don't plan on doing much your first day. You've accomplished enough just getting there.

You can expect a mandatory X-ray of your carry-on luggage at the airport; no amount of pleading for a hand-inspection of your film box will dissuade them. I put my own carry-on film in those extra-strength Film-shield lead-lined bags, double bagged. When they X-rayed it, it showed up as an opaque black box on their screen . . . they were so surprised that they put it back in and X-rayed it again! I couldn't believe it. Finally they did a hand-check of the contents.

If you intend to sell anything while in Germany you must declare it at the airport. They will charge you the tax immediately; if you end up not selling something after all, you must file for a refund. Customs agents do make the rounds of the show checking for undeclared merchandise. I would characterize these gentlemen as "humorless," so it is best to cooperate. If you are bringing a lot of expensive photo equipment, for example, and are worried that some customs agent somewhere may try to charge you duty on it, just obtain a statement at the American airport before you leave the

Wendell E. Wilson
The Mineralogical Record
P.O. Box 35565
Tucson, Arizona 85740



U.S., listing your items and serial numbers; this will prevent any problems later on.

Personally I prefer to rent a car in Germany, as this gives maximum freedom to explore and enjoy. However, you can just as well take a taxi from the airport to your hotel, and use public transportation thereafter. Munich has one of the world's best public transportation systems, and the maps and schedules are easy to understand. If you decide to drive yourself, it is absolutely essential that you obtain a detailed map of the city, or you are doomed. The traffic in most big cities runs fast and furious, and this is especially true of Munich. I particularly like the way the traffic lights give a yellow before a green, so that everyone stopped at the intersection can get a good running start! The city plan itself is chaos, having evolved more or less at random for nearly a thousand years. Looking at the map, one gets the impression it was laid out by throwing a handful of tangled spaghetti at the paper and then tracing carefully around each noodle. No neatly numbered east-west north-south grids here. And another thing about renting a car: it's best to make your reservation through an American travel agent in advance of your trip. That way you'll get lower rates, and your car will be waiting for you upon your arrival.

The only potential problem with renting a car and not speaking the language is reading street signs . . . and there can be precious little time to look things up in a dictionary while speeding through rush hour traffic. Nevertheless, with a modicum of bravery/foolhardiness it can be handled. The first thing I learned is that *Einbahnstrasse* is *not* the name of a quaint little back street; it means "One Way Street." Of course there are the "international" street signs having no words, just pictures. This sounds ideal, but there are dozens and dozens of different symbols, not all of which are self-explanatory. For example, on my first excursion on the autobahn (Germany's system of no-speed-limit freeways) I passed a sign composed simply of a yellow triangle around an exclamation point. In my frame of mind at the time I thought perhaps this meant "Time To Panic" (it probably just means "Caution"). Speaking of the autobahn, it's true what they say: cars in the fast lane commonly exceed 200 kph, so caution is advised.

If you don't speak German, your American friends are likely to

say, "Don't worry, everyone there speaks English." This is true only if you adhere closely to the tourist trails. Generally everyone you might need to talk to in airports, on airplanes and in hotels will speak some English. It gets less dependable in restaurants and shops, but you must remember that Europeans are accustomed to coping with language problems and seem to take such difficulties in stride.

A major concern for the first-time visitor is where to stay. Two hotels are favored by visiting Americans, and these are both within walking distance of the show. The Hotel Haus Bavaria is located at Gollierstrasse 9 (D-8000 München 2, West Germany; phone 089/501078). It is clean and pleasant, with its own bar and breakfast room, and the rooms are recently redecorated but (as usual in Germany) without television. A double room with bath costs about \$55 including breakfast. One block away is the Central Hotel München at Schwanthalerstrasse 111 (D-8000 München 2, West Germany; phone 089/506081). The rooms here are a bit nicer, and have television; the cost is closer to \$60 a night. Downstairs from the Central Hotel is the Hacker-Keller restaurant where many of the Americans end up each night; the roast pork (Schweinshaxen) is delicious. Both hotels have underground parking. But remember to make your reservations early (May or June is not too early) to avoid problems.

One last comment about lodgings: the beds in Europe are rather different. What you get are pillows, a mattress, a bottom sheet, and a big bag of feathers. That's it. Actually the bag of feathers is a very cozy down comforter, but if you tuck it in at the bottom (to avoid drafts on the feet) it comes out much too short on top, leaving you with cold shoulders. Since there is no additional bedding such as a spread or blankets, I found myself wishing I'd brought a little lap robe or something.

Food is not a problem in Munich. There are good, inexpensive restaurants everywhere. You'll need a little help with the menu if you don't speak German, so bring your dictionary, and try to find an English-speaking friend or waitress to explain some of the dishes. Fast food is available too, including MacDonald's and Wendy's; Wienerwald is the local chain, where a fairly familiar menu of hamburgers, fried chicken, fish, french fries, and German

dishes awaits. And there is beer, even in MacDonal'd's. Most hotels serve a breakfast as part of the room rate, generally consisting of bread, cold cuts, cheeses, juices, tea and coffee.

If all of these details seem like more than you want to cope with, then you can simply sign up with an American tour group. Everything is taken care of for you, and you have plenty of English-speaking traveling companions to socialize with.

MUNICH

Munich is one of Europe's great cities, and home to well over a million people. It began sometime before the year 800 as a small settlement of Benedictine monks; it was known then as *Munichen* or *zu den Mönchen* ("at the monks"). Both names have endured, as Munich and München, though Germans use the latter almost exclusively and refer to residents as Münchners.

Henry the Lion, Duke of Saxony, built a bridge at Munich in 1158 in order to control and tax salt shipments coming from Salzburg. A town gradually grew up there as a result, though relatively few structures remain from those early days. A part of the city's oldest church, the Peterskirche, built in 1181, still exists in a much remodeled state. A portion of the fortress-like Alter Hof, the first ducal residence, remains as well. The city itself was once walled in and, although the walls are now long since gone, the boulevard which surrounds the inner city follows the original line of the wall, and three of the original *Tors* or gates still stand: the Isartor, Sendlinger Tor and Karlstor.

One of the city's favorite symbols is the enormous Frauenkirche—the Church of Our Lady—begun in 1486 and financed entirely by the people rather than the princes. Its twin towers, 100 meters tall, are capped by distinctive copper cupolas.

For hundreds of years Bavaria was famous for its wines, but in the 13th century the climate began to grow cooler, and the hardier hops and barley became more practical to raise than grapes. Regulations governing the purity of ingredients for brewing beer were passed in Munich in the 1460's, and these regulations, with some amendments, are still in force today. Münchners take their beer seriously; in fact a Court brewery was established in 1589, and was moved in 1644 to the Hofbräuhaus which is still a beer hall today. One of Europe's most ebullient festivals, the 16-day Oktoberfest, annually accounts for the consumption of literally millions of liters of beer, not to mention several hundred thousand roast chickens and several herd of oxen, spit-roasted whole.

The Bavarian attitude toward eating and drinking and feasting is one of the joys of a visit to Munich. Although sausages and sauerkraut are certainly available, a wide variety of other dishes prepared with gusto are to be found, especially veal and pork roasts. Pastries, breads and fancy desserts abound. And the beer—it really is better than just about anything on tap in all of

The Munich skyline (*opposite page*) is famous for its many historic towers, including (left to right) the 11th century Peterskirche, the Frauenkirche (1488), the Neues Rathaus (rebuilt in recent times) and the Heiliggeistkirche (1392).

Stone tympanum (*right*) above a doorway in the Neues Rathaus, showing Munich's heraldic monk.

North America. A few liters down the hatch and you begin to catch that robust Bavarian good humor yourself.

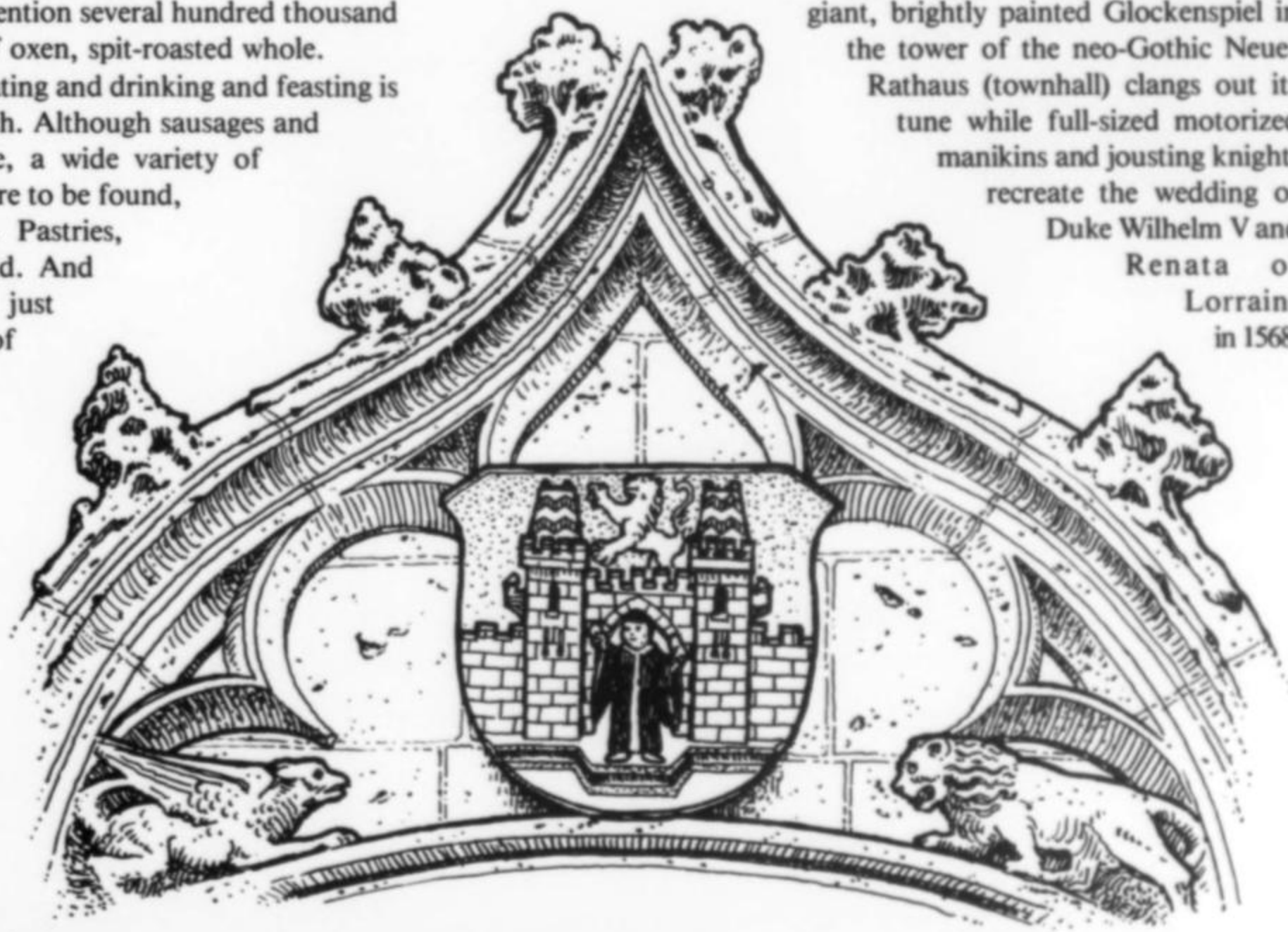
It would make no sense at all to travel all the way to Munich and not see the city as well as the mineral show. Start with the modest mineral collection on exhibit in the Ludwig-Maximilian University, indicated on some city maps as the Mineralogische Staatssammlung, the State Mineral Collection. Of particular interest here are four huge platinum nuggets from Nishne Tagilsk, Soviet Union, measuring from 3.5 to 10 cm across. And it's difficult to miss the 30-cm plate of emerald crystals on schist matrix from Takowaja, Soviet Union.

The other stop which no mineral collector should miss is the Deutsches Museum, the largest science and technology museum in the world. Here you'll find an enormous mining exhibit consisting largely of recreated underground environments from many mines, countries and eras. Imagine spending more than half an hour just walking through mine after mine, up inclines, past stopes and shafts, around miners and mining equipment; and the wall rock changes to correspond to each mining area depicted as you move along. Three cases of superb antique mine lamps highlight the whole presentation.

For art lovers there are several museums including the Alte Pinakothek (14th-18th century art), Neue Pinakothek (18th and 19th century), and the Glyptothek (Greek and Roman). Munich is a museum city . . . there is even a museum of hunting and fishing! There is also the City Collection of Paleontology and Historical Geology, the Egyptian art collection, the Modern Art Gallery, the Museum of Prehistory, and many others.

Additional places to visit include the old royal Residenz, Schloss (Palace) Nymphenburg, Olympic Village, the artist's district of Schwabing, the antique shops along the Maximilianstrasse, and perhaps even the old Dachau prison camp north of town. Munich is also a music city, and concerts are given regularly at a number of locations. Opera and theater thrive here as well. Street singers and street artists are common, adding a festive air to the hustle and bustle of downtown.

The place for shopping is the Marienplatz and surrounding area right in the center of the old city. Motor traffic has been prohibited from several of the central streets, where shoppers stroll in relative peace and safety. At 11 a.m. each day the giant, brightly painted Glockenspiel in the tower of the neo-Gothic Neues Rathaus (townhall) clangs out its tune while full-sized motorized manikins and jousting knights recreate the wedding of Duke Wilhelm V and Renata of Lorraine in 1568.





On the trade-show day of the show (Friday) only dealers, curators and other people "in the business" are admitted, and the aisles are not crowded.

Visitors mob the entrance to the show hall when it opens to the public.



Following this performance you can head for the basement of the Rathaus, the *Ratskeller*, for a great meal.

And what about the Münchners themselves? They are friendly and outgoing, proud of their Bavarian heritage and of their city (they like to call Munich "Germany's secret capitol"); they are boastful of their beer, their food, their music and their soccer team. They love their dogs, and it is not uncommon to see people eating in a restaurant with a well-behaved dog sitting alertly at their side. The people are unusually tolerant of tobacco smoke, but if you sit in your car at curbside with the motor running someone is sure to come up and tell you to turn the smelly thing off. They have only one thing yet to learn: the notion of putting a wiener on a bun. Diners at the Munich Show concession stand like to hold a foot-

long hot dog in one fist and a kaiser roll in the other, biting alternately from each.

THE MUNICH SHOW

From its modest beginning in 1964, when 300 people attended the show, the Mineralientage München has grown into a mineralogical event of worldwide stature. Over 18,800 visitors passed through the gates of the 1983 show. The enormous show hall encompasses 8000 square meters and accommodates over 300 dealers from 28 countries. Some of the dealers are just private collectors or strahlers who have come to sell their year's-worth of extra specimens on a couple of meters of table space. But many of the dealers actually construct shops within the show hall, complete with roof, carpeting, lighting, paneling and a variety of fancy showcases; it is not uncommon for a dealer to spend more than \$1000 just on booth construction. Such extravagance in presentation is simply not seen at American mineral shows.

Most of the hall is devoted to dealer space, but there are a number of displays as well. One set of cubic-array glass cases entitled *Schaustücke* (showpieces) contains the best specimen or two from the stock of many different dealers. The specimens are all for sale, and are labeled as to booth number so that potential buyers can find the owner; but they are also in competition for the best-specimen-in-the-show award known as the Viktor Goldschmidt Prize. Other cases are generally by invitation only, commonly having to do with the theme of the show for that year (although there are plenty of exceptions regarding theme). There are no other competitive exhibits and, unlike the American shows, one does not see



case after case containing the personal collections of private individuals. Nor are there large cases devoted to major pieces from important museums, except as may be related to the show theme.

In addition to the Viktor Goldschmidt prize, three other awards of cash and a trophy are given: one for the best of the invited historical mining displays, one for the best fossil in the show, and one for the best new find by an Alpine strahler (professional mineral collector). The awards are collector's items in their own right: the Viktor Goldschmidt prize is a pewter platter with intricate designs depicting eight historical German mining costumes. The other prizes are beer steins also having historical mining themes, and having engraved pewter lids.

The focal point of the Munich fairgrounds is the brass statue entitled "Bavaria" overlooking Teresa's Meadow where the Oktoberfest is held each year. A few hundred meters to the rear are the many enormous buildings of the fairgrounds complex, including Hall 16 where the Munich Show is held.



American shows tend to have a wholesale section for wholesale dealers (public not invited), and a main hall for the retail dealers, both areas open continuously through the show. In Munich they do it a little differently: the first day of the show, Friday, is the designated wholesale *day* for *all* dealers. This day is referred to as the GEOFA or Geofachmesse (Geo-trade show), and only visitors presenting a GEOFA card are admitted. How does one obtain such a card? All you need do is write to the show office well in advance, on company stationery demonstrating that you are somehow "in the business." Museum curators, professional mineralogists, jewelers, dealers and their purchasing agents and guests, goldsmiths and silversmiths, stone carvers, craftspeople and miners are all permitted. Then, on Saturday and Sunday, the entire show is open to the public.

The Munich Show caters to everyone, but is primarily directed

toward the mineral collector. Fossil collecting is more popular in Europe than in America, so you also see a surprising number of fossil dealers. The numbers for 1983 show this clearly: 180 mineral dealers, 52 fossil dealers, 55 gemstone dealers, 14 dealers in jewelry findings, and seven magazines (*Der Aufschluss*, *Emser Hefte*, *Lapis*, *Magma*, *Mineralein Magazin*, *Mineralogical Record* and *Schweitzer Strahler*). Also included are scattered dealers in stamps (mineral theme), postcards, calendars, used books and collecting gear. The German post office even sets up a booth where show-goers can have mail stamped with the show's own postmark!

Perhaps the single greatest difference between the Munich Show and American shows is the management structure. Whereas most American shows are organized and financed by clubs and societies with many members, the Munich Show has, since 1972, been under the guidance of Johannes Keilmann. More than 200 volunteers



Hermi Keilmann is shown here on set-up day talking to guests next to one of three pallets of champagne for the opening ceremonies. Each bottle had a custom show label.

tant matter. Of course, without the right leader such a system could easily end in disaster; but the Munich Show has been blessed with one of the ablest administrators in Mineraldom, and so it continues to thrive and grow. In 1983, for example, Keilmann put together an exhibit of gold specimens from many museums and private collections, and also arranged for historical displays having to do with gold mining. The formidable problems involving customs, insurance, security, display design and simply coaxing potential exhibitors into agreement have discouraged other show-sponsoring organizations from even attempting such a feat, but Keilmann carried it off with style.

What else is different about the Munich Show? For one thing, first-time American visitors may feel subtly disoriented by the dealer tables until they realize that the little cotton-lined specimen boxes so common in America are totally lacking here. Specimens are laid out directly on the tables or in the cases, commonly without individual labels. American shows generally open without fanfare, but Münchners are more enthusiastic: the Mayor of Munich was on

There was always a line for the tent housing the big gold display at the 1983 show.



from the 600-member local club (Munich Mineral Friends) provide the thousands of man-hours necessary to put on such a show. But Keilmann and his wife Hermi have created their own company (Mineralientage München Fachmesse GmbH), and work year-round full-time to prepare for the three-day show each year. This concentrated year-long effort results in an extremely well organized, well thought out and smoothly running show. Since Keilmann is solely in charge he can make quick decisions where needed and is generally more free to be creative. There is no committee arrangement where a vote has to be taken on every impor-

hand to say a few words this year, as was 93-year-old Prof. Paul Ramdohr, one of the most highly respected and revered mineralogists in Germany. Then Keilmann broke out the champagne for everybody, about 100 cases of it, each bottle having a specially designed label commemorating this year's show. As I said, he does things with style.

Then there is the food concession. You will never see its like on our side of the Atlantic. A wide variety of tasty German dishes are served, including an overwhelming range of desserts. To one side was a concession containing over a dozen large tubs of candied



Helmut Brückner (white shirt) stands with Ranier Bode (editor of *Emser Hefte* and *Magma* magazines) in front of Brückner's lavish show booth.



The show display (entitled "Showpieces") composed of the best specimens from the dealer stocks of many of the show dealers. A prize is given for the best specimens.



At center is the ornate pewter presentation plate for the Viktor Goldschmidt Prize, flanked by presentation beer steins with engraved lids for other prizes.



One of several gold-related displays that were the highlight of the 1983 show, this one depicting various aspects of gold mining and panning in Finnish Lapland.

The concession stand at the show carries plenty of beer and a large menu.

C. R. Wilson



C. R. Wilson



Deutsches Museum

This exhibit at the Deutsches Museum, only a few kilometers from the show, depicts salt mining in Poland. The figures are life-size.

fruits and nuts. And of course there is *beer*.


Finally there is the site of the show itself, the Munich Messegelände or Fair Grounds. The enormous show hall is Halle 16, only one of 20 major structures in a vast complex of show buildings arranged in a U-shape around a park. Opposite Halle 16 at the far end of the park stands the 20-meter brass statue known as *Bavaria*, a rather husky, toga-clad goddess overlooking Therese's Meadow where the Oktoberfest spreads out every year.

CONCLUSION

There's no doubt about it: the Munich Show merits the highest recommendation. The city of Munich provides a wealth of fascinating sites and delicious food, good shopping and friendly people . . . an ideal setting for a mineral show. Visitors willing to range a bit

more widely can visit any number of castles and palaces in Bavaria, and can reach the Alps in little over an hour. My special recommendation: a short jaunt over to Salzburg to tour the famous salt mines and enjoy the city's wonderful ambiance, shopping, music and chocolate desserts.

For more information on the Munich Show write to Johannes Keilmann, Mineralientage München, Postfach 60, D-8024 Oberhaching, West Germany (Telephone 089/613-4711). The theme for the 1984 show will be Alpine minerals. For more information on Munich and on traveling in Germany write to the German Tourist Office, suite 1714, 700 South Flower Street, Los Angeles, California 90017. Tourist guides and maps of Germany are available in many bookstores.

The dates of the 1984 show are October 26 (Trade Show), 27 and 28. 

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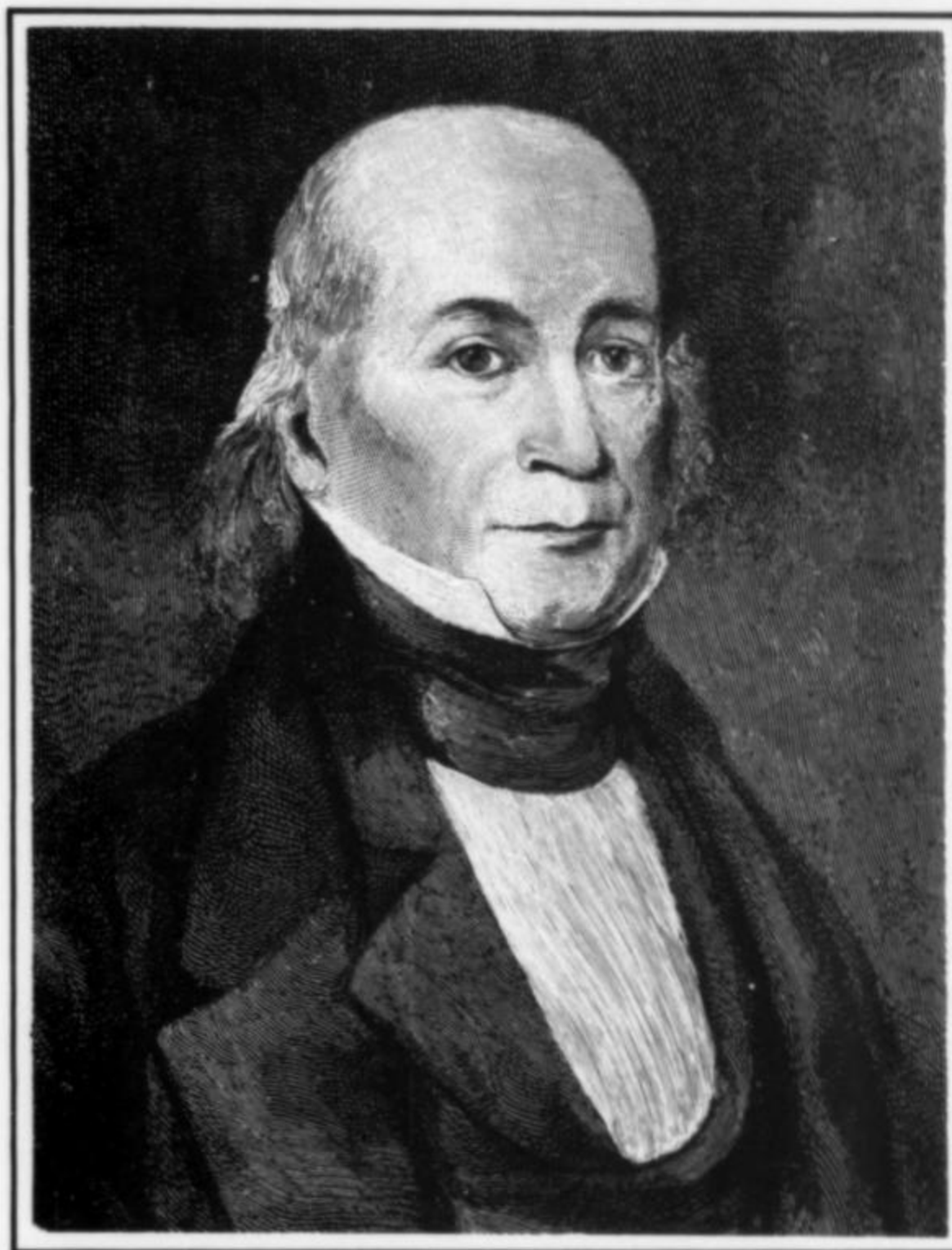
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Munich, Germany, Show _____	Oct. 26-28
Pasadena Show _____	Nov. 3-4

See Us There!

Gerard Troost

& his collection



Gerard Troost (1776–1850) was a collector and a naturalist, student of Abbe Haüy, educator, scholar, linguist, mineralogist, geologist, paleontologist, and founder of museums. His 14,000-specimen mineral collection has survived more or less intact.

INTRODUCTION

During part of 1977 and again in 1982 and 1983 I have worked as a volunteer at the Louisville (Kentucky) Museum of History and Science. Museum work has proved to be exciting; it was here that I encountered the 140-year-old Troost collection of minerals, rocks and meteorites. Large collections are not uncommon today, but in

Troost's time they were very rare. Mineralogy was in its infancy, America was still a frontier country, and yet Troost managed to accumulate over 14,000 specimens and a library numbering nearly 8,000 books. Although his collection has not survived unscathed, it is still a remarkable historical treasure.

Alan Goldstein
3430 Bryan Way
Louisville, Kentucky 40220

GERARD TROOST: A BRIEF BIOGRAPHY

Gerard Troost was born in Boise-Le-Duc, Holland, on March 15, 1776. He studied at the Universities of Leyden and Amsterdam, receiving his Doctor of Medicine in Pharmacy in 1801. This set him up for his interest in chemistry, geology and natural history. Although he practiced at the Hague and again in the army, medical interests soon waned (Glenn, 1905).

In 1807, under the patronage of Louis Bonaparte, King of Holland, he traveled to Paris where he studied under Abbe Haüy, the "father of crystallography." Troost also translated Alexander von Humboldt's *The Aspects of Nature* into Dutch while he was in Paris.

Upon completion of his studies in Paris, Troost traveled across Europe collecting minerals. His cabinet, said to be of great value, was purchased by the King of Holland. (Does anyone know what became of this collection?) The king appointed Troost as scientific attache for an expedition to Java in 1809, but this was not to be. His first attempt ended when his ship was captured by an English privateer, after which he was imprisoned at Dunkirk for a time. He tried to go to New York, where he could embark for Java again, but this time a French privateer scuttled the plans. He was imprisoned again until his nationality was established, then returned in frustration to Paris.

In 1810 Troost tried a third time to sail to Java. He made it as far as Philadelphia, but Louis Bonaparte then abdicated and Java was ceded to England. Troost abandoned his lost cause and decided to stay in America. Ties were quickly established, and he married a lady of Philadelphia. At the same time Troost met with others interested in the sciences and, in 1812, they drew up a constitution and formed the Academy of Natural Science (now known as the Philadelphia Academy of Sciences). He was elected its first president, which post he held for five years until resigning in 1817.

In 1815-1816 Troost established the first alum works in America at Cape Sable, Maryland. It was unsuccessful and he lost a great deal of money in that venture.

In 1821 he was appointed Professor of Mineralogy at the Philadelphia Museum, where he presented lectures on that subject for the public. He had a brief stint as Professor of Chemistry at the Philadelphia College of Pharmacy, but resigned after giving one lecture. While living in Philadelphia, Troost studied the geology and soils of New Jersey, New York and the local environs around his neighborhood, publishing a pamphlet entitled *A Geological Survey of the Environs of Philadelphia*.

In 1825, Troost and other Academy of Science members moved to New Harmony, Indiana. This unusual community, established by Robert Owen (the brother of David Dale Owen, the State Geologist of several states) was a "colony" for scientists, naturalists and those of an artistic nature. After two years Troost moved to Nashville, Tennessee, where he lived for the rest of his life.

The University of Nashville appointed him Professor of Chemistry, Geology and Mineralogy, a job he retained until his death. In 1832 Troost was appointed State Geologist and for the next 17 years he investigated rocks, minerals, fossils and natural products of Tennessee. His works were published in his annual reports (see Cockrill, 1911).

Of his lesser known activities, Gerard Troost established the Nashville Museum of Natural History soon after his arrival. With over 20,000 specimens in his collection (Corgan, 1977), his museum had displays of not only mineral specimens, but also bird pelts from the East Indies, live reptiles, Indian artifacts and several pieces of chemical and physical apparatus. Exhibits illustrating basic principles of chemistry and natural philosophy were also employed. Professor Troost lived in a very frugal manner in order to add to his collection. Considering the frontier conditions of the region at that time, Troost's museum was certainly unique!

Troost was learned in four languages as well as in the classics. His personal library is said to have been unmatched by anyone else in the region. With between 7,000 and 8,000 volumes, his library was exceeded only by the Tennessee State Library and the University of Nashville Library.

Troost was a man of varied interest. In 1830 he joined the Medical Society of the State of Tennessee and gave a lecture on medical topography. He was also a founding officer of the Society for the Promotion of the Cause of Popular Education (the Nashville Lyceum) in 1831. This group sponsored public lectures.

In the late 1830's and early 1840's, Troost served on the State Board of Agriculture of the Tennessee Agricultural Society. He also served as co-editor of *The Agriculturist*, an important agriculture journal. Troost presented lectures at the Nashville Mechanics Institute and translated the large work of the Dutch early American frontier explorer David Pieterszen de Vries. He was the first honorary member of the Tennessee Historical Society.

The Franklin, New Jersey, mineral *troostite* was named in his honor, apparently without explanation, by Shepard (1832); it was later reclassified as a manganoan variety of willemite.

Troost's last work was a comprehensive study of the crinoids of Tennessee. The manuscript was completed a scant four weeks before his death (Wood, 1909). Unfortunately, it was not published until some 58 years after his death. Gerard Troost died of cholera on August 14, 1850.

HISTORY OF THE TROOST MINERAL COLLECTION

After the Louisville Free Public Library was founded in 1872, one of its first purchases was the collection of Gerard Troost. Why would a library purchase a substantial mineral collection? Louisville was more of an industrial and agricultural city. Yet there were a few citizens interested in the sciences. No doubt they thought the collection of Troost would add prestige to the city and would provide the local amateur and professional scientists with specimens to study and admire.

The estate of Gerard Troost and the Library ratified sales agreements on July 28-29, 1874. The agreement was as follows:

I will agree to dispose of the Troost collection of minerals and fossils and embraced in 71 cases according to catalogue, now in the University of Nashville building—to the Public Library of KY, for the following sums in cash or its equivalent viz; Eighteen thousand dollars to go to the heirs of Troost and the Library to pay the expenses of the agent for selling, caring for & of said collection, the sum being two thousand five hundred dollars. The settlement of proposition to be made as soon as the collection arrives in Louisville. The box of Meteorites . . . is for Prof. Smith — — — By this is meant that only the Meteoric specimens of iron and stone in box No. 2 are granted to Prof. Smith who engages to give to the Public Library a suit of meteoric specimens. The other minerals in that box, of which there are a number, are included in the sale to the Library.

Perien & Laundres
Agent for Troost heirs

Accepted for the Library by
I. Lawrence Smith—but to be

ratified by the committee of the Library.

In 1882, the collection was turned over to the Kentucky Polytechnic Society and a museum was established shortly thereafter. Some 1,500 specimens were placed on display, the rest being kept in storage cabinets.

THE CATALOG AND PROBLEMS

The twentieth century has not been kind to the Troost collection. In January, 1937, the Ohio River valley suffered a major flood. The museum was housed in a building slightly over a mile from the



Figure 1. Pyromorphite, from Tschoppau, Saxony. The specimen measures 12.5 cm. Troost's catalog number (12824) indicates that he cataloged it shortly after 1840. He notes that he purchased it from Heuland for \$10.

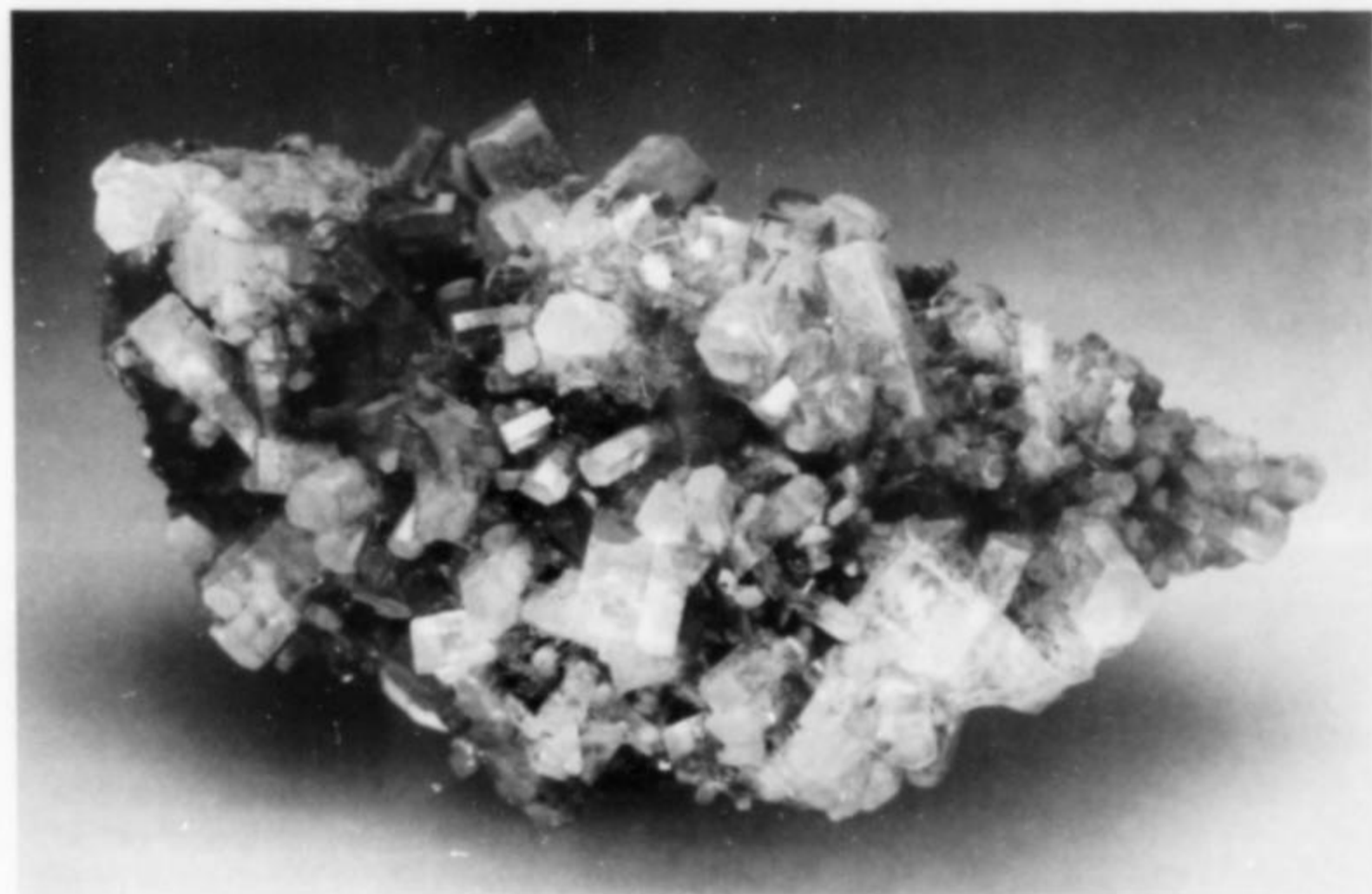


Figure 2. Calcite, from St. Andreasberg, Harz Mountains, Saxony. Catalog number 12974; 7 cm long.

river, yet the building was inundated. It took several weeks for the flood to recede; the collection was left in shambles. Everything underwater had been covered with mud and the prolonged soaking had removed the catalog numbers from a large number of specimens. Labels kept with the specimens were also encrusted with mud and even today are virtually unreadable. I have found that an ultraviolet light increases the contrast between the ink and the dirty label so that I have been able to identify a number of specimens for the first time in nearly 50 years. I have also been able to correct some blunders that earlier post-flood workers made.

Another major problem, compounded by the missing numbers is the number of missing specimens. Whether they were stolen, borrowed or misplaced, no one can say. Perhaps it will be possible to

computerize the catalog in a couple of years and a list of "definitely" missing specimens can be drawn up. For instance, Troost had a number of diamonds in matrix but, to date, none have been found. Apparently precious gems and metals were prime targets. Recently some gold and cut gems of little value were found in a safe in the "bowels" of the library. Two pieces which caught my eye were a crystalline piece of gold and a large emerald in matrix. Other specimens may yet turn up. Of the large number of meteorites originally in the Troost collection, only two have been located.

Most of the Troost catalog has fortunately survived and it is a treasure trove of information. Many descriptions are all too brief, while others make fascinating reading. (Some of the latter are reproduced here.)

There are some problems with the catalog. For instance, the section of catalog between numbers 5319 and 5999 is missing. Even more frustrating is the fact that the catalog ends with number 13,582, yet many specimens with higher numbers have been found. All too many do not have labels with them.

The labels are troublesome, not only because of flood damage; in some cases there are two, three, even six labels to a single specimen. This can be frustrating if the specimen is unnumbered.

The logistics of handling a large collection are formidable. I have taken over a table, desk and two cabinet tops in my attempt to organize the minerals. The curator likens my work to an amoeba, with my continual encroachment on everything. I have to get out three boxes in order to fill one. The collection is roughly divided into three categories: (1) those with surviving numbers and/or numbered labels, (2) those without numbers or numbered labels which I can identify, and (3) those without numbers or labels which I cannot identify. The first two are subdivided into mineral groups (silicates, oxides, carbonates, rocks, etc.), the third is roughly divided into silicates, non-silicates and rocks. This is a first step before a mineralogist can work on the more detailed and difficult task of identifying all specimens and correcting previous errors.

Currently the entire collection is stored in over 275 boxes (21 x 30 x 42 cm) on seven levels of shelving. The original cabinets were not dust-proof (as my hands clearly show after handling a few specimens) and new storage cabinets are planned. The present situation has specimens wrapped in newspaper (or not at all) in two or three levels per box. Each level is separated by thick foam padding. This is far from ideal and some specimens have been damaged, though few have been damaged heavily. I am transferring specimens to Zip-Loc bags, so dust will no longer be a problem. The new cabinets will alleviate current packing problems and will allow minerals to be stored in numerical order if desired.

CURRENT AND FUTURE USES OF THE COLLECTION

Despite the problems mentioned above, there are many uses for the collection. Currently some of the finer specimens are on display. There are many display-quality specimens packed away, including many from collections acquired after the Troost collection.

Exhibits can be prepared on:

(1) Individual species of minerals of which the collection has a large number of specimens (i.e. calcite, fluorite, quartz, spinel, wernerite)

(2) Specimens from mineral districts (i.e. Franklin, New Jersey; Derbyshire, England; Arendal, Norway; Harz Mountains)

(3) Mineral groups (silicates, carbonates, etc.)

(4) Crystal forms (since Troost studied under Haüy, crystallography played a very important part in his collecting)

(5) Economic minerals

Most of the collection is not of exhibit quality, and the bulk of it should be made available for study. The various crystal forms, properties and worldwide locations make it particularly useful for research. There are certainly many independent study and thesis projects possible which might utilize the collection.

Some Excerpts from the Troost Catalog

Specimen number	Description
1670	Idocrase of a brown color crystallized in a prism with 16 faces terminated with a pyramid, with four faces the apex being truncated, but in this specimen the apex is so deeply truncated that the four faces of the pyramid have disappeared nearly all together leaving only a

small part which has now only the appearance of a bevelment, with lamellar garnet. Arendal, Norway.

2308 Pyroxene Diopside in four-sided prisms, the lateral edges are replaced by two linear faces forming a prism with 12 faces of which eight are narrow and four broad, terminated by pyramids with four faces. The crystals are translucent and are imbedded in the same substance commonly called mussit, having a lamellar structure, and is opaque, with green translucent talc crystallized in hexahedral flabelliforme masses. The matrix is a mixture of red garnet and green talc. Ara in Piedmont.

2310 Sulphate of Barytes crystallized in beautiful transparent crystals which are a four-sided flat prism with dihedral summit. This form has not been figured by Haüy. It is a modification of the apophane, being in that case lengthened in the direction of the long diagonal, by which operation the triangular faces *d* are . . . trapezoidal faces; or a modification of the epote in which case the crystal is retracted in the direction of the small diagonal, the faces *o* having altogether disappeared and the faces *M* touching one another, forming an edge at the apex of the length of the depth of the crystal, by which these faces have become pentagons. The crystals are implanted in calcareous spar equaxe on lamellar sulphuret of lead. Prizibram in Bohemia.

2555 Calcareous spar [calcite] semi annulaire, the prism belonging to the prismatique alterne, the base assumes a triangular face instead of a six-sided. It contains a few crystals of Harmotome cruciforme. Andreasberg, Harz.

2559 [Calcite] crystallized in octahedrons on carbonate of lime colored by iron oxide, with brown tourmaline and compact feldspar, on a mixture of spinelle [spinel] and mica. Franklin [New Jersey]. I believe this is the finest specimen that was found.

2561 Carbonate of soda. Variety Bi-carbonate of soda from the crystallized in flattened prisms and fibrous from the Province of Sukensa two days journey from Fezzan in Africa.

3737 Phosphate of iron [Vivianite] in flat lenticular crystals of a greenish blue color, translucent. New Jersey.

[Note on opposite page:]

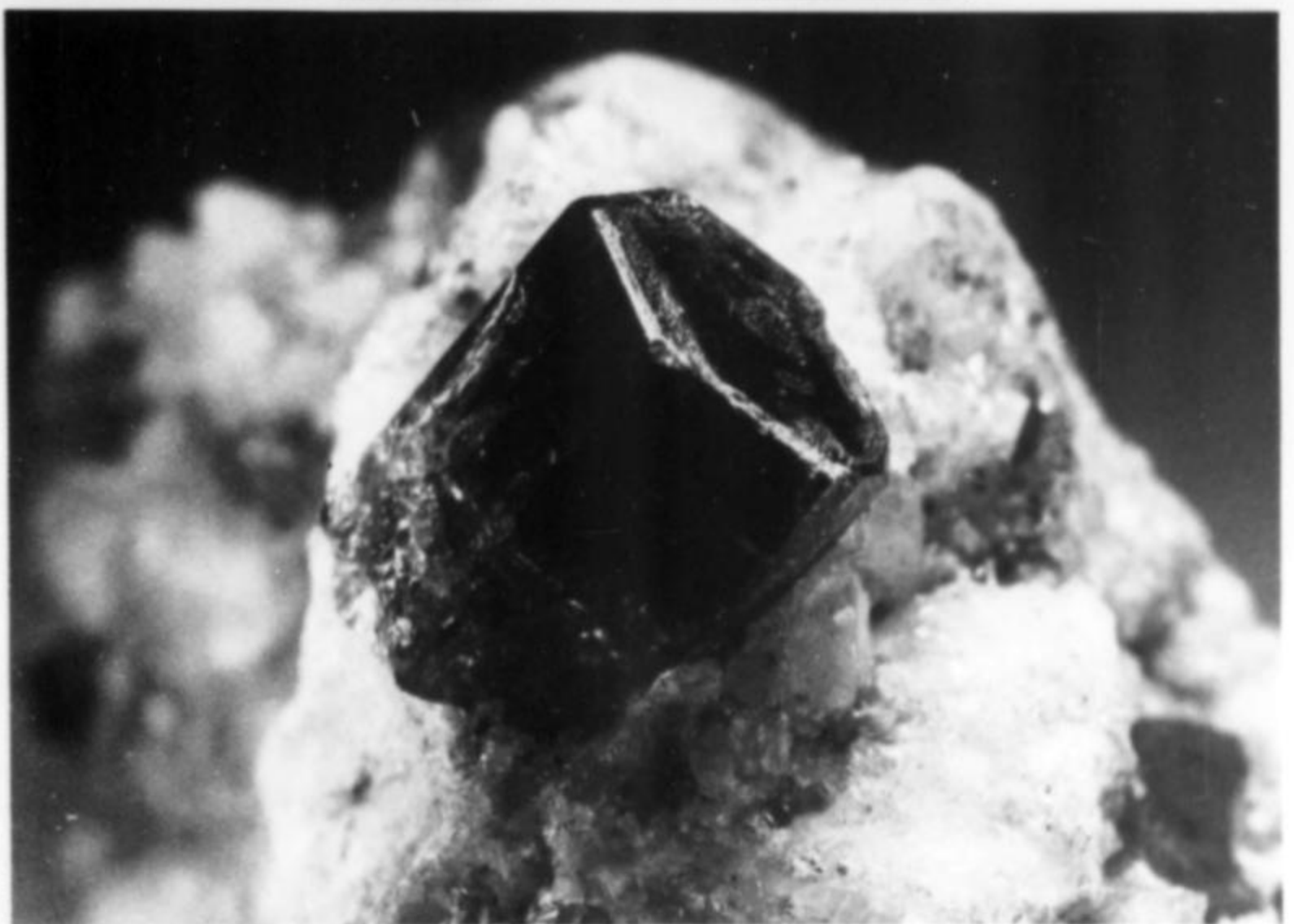
If we consider the general appearance of these crystals, they would seem to be lenticular crystals resembling more or less the lenticular selenite, but when we examine the specimen with a magnifying glass then we see that the lenticular crystals are composed of an accumulation of small rhomboids or rhomboidal prisms with inclined bases, and though too small to admit of measurement, it is never the less plain, that none of the angles given up by Haüy in his 2nd edition correspond with those of the small rhomboids. The measurement given up by Thomson (Annals of the Liceum of Nat. History of New York, Vol. III p. 35) seems to agree more with those of our specimen. Prof. Thomson who has published an analysis of this ore in the above mentioned Annal calls it Diphosphate of iron. Could this be the difference between this and the species described by Haüy?

3739 Do. (Same as 3737) a mass of crystals partly decomposed, surrounded with sand agglutinated with iron oxide and clay. Same locality.



Figure 3. Gold, from Lumpkin County, Georgia. Gold was discovered in Georgia in 1828, in Lumpkin County. So much gold was produced that the U.S. mint opened a branch there in 1838 and minted gold coins until 1861 (Cook, 1978). The red material appears to be sealing wax which was used to mount the specimen on a display board. Height, 3.5 cm. The specimen's catalog number (11132) indicates that Troost added it to his collection in the late 1830's. He described it as "Native Gold — a crystalline arborescence containing some polyhedral solids." The polyhedral solids are crystals of milky quartz.

Figure 4. Beryl, variety emerald, Muzo mine, Colombia. The crystal is 1 x 1.5 cm. Troost's catalog number (12802) indicates that it was cataloged shortly after 1840. He notes that it originally came from "Chantry's collection" and that he purchased it from Heuland for \$150. (Microscopic examination verifies that it is not a fake.)



[Note on opposite page:]

This is one of the largest and most interesting masses of crystals that has been found in New Jersey but it seems to differ in some respect of the Phosphate of Iron at least from the earthy variety which is often found of a yellowish color and becomes blue when exposed to the action of air, where as this crystalline mass exhibits the reverse of this property, the inside being blue while the outside is changed into hydrate of iron, having preserved etc, crystalline form — It is a handsome specimen.

- 4469 Curve carbonate blue carbonate of copper crystallized as sexbisactonal with fibrous malachite having assumed the same form of crystallization on compact brown oxide of iron. Chessy near Lyons in France.
- 4474 Green carbonate of copper variety fibrous malachite (epigine) having assumed the form of the dihexahedre of the blue carbonate of copper. They are entirely composed of needles as the fibrous malachite with blue carbonate of copper crystallized and earthy blue carbonate of copper with lithomarge. Chessy France.
- 6458 Pyroxene crystallized in eight-sided prisms the terminations of which are somewhat obliterated with the same in grains of coccolite with mica and red calcareous spar. From Orange County, New York.
- 6459 This rare specimen (is Oligoclase, not known when I wrote this) contains some non-descript mineral. Part of the crystal seems to belong to Wernerite, but some form of them seems to be feldspar. The rock on which the crystals are, is a mixture of the same as the crystals. From Arendal, Norway.
- 6465 Quartz or silic in pseudomorphous crystals — it has assumed the form of the dodecahedre (Haüy) of the sulphate of Barytes. A perfect crystal of it is seen in the deep cavity. From near the Merimack river, Missouri State.
- 6657 Melonite in four-sided rectangular prisms terminated with pyramids — This crystal is not described by Haüy, it would be *deoctahedre* but the faces *s* are wanting. These crystals are placed on a substance which seems to have undergone a partial fusion which would indicate that the melonite was formed since the rock had been ejected from the crater. The hole lines a cavity in a limestone ejected from the crater of Monte Somma near Vesuvius.
- 6662 Green Spinel. This mass contains one fine large emarginated octahedron, but the specimen is very interesting for its lamellar variety of green Spinel which is not spoken of by those that have written on that mineral on quartz. Franklin, New Jersey.

[This note preceded the mineral number 6724:]

Nearly 30 years have elapsed since I commenced this catalogue — During which time the Science of Mineralogy has undergone great changes. The classification of minerals is now established on better principles. The collection at the same time has much increased in number; I purchased a small collection of about 1500 specimens from Baron von Turk at Potsdam in Prussia for \$1,600 and has besides increased with 2500 specimens. These next 4000 specimens are now described in the following pages according to the system of C. C. von Leonhard *Handbuch der Oryktognosie*, 2nd edition, 1826 and the cabinet itself is now arranged according to this system.

[Note preceding specimen number 11560:]

Here commences a new enumeration which includes the specimens obtained since 1840 — including a collection which I purchased of Baron von Turk in Potsdam for \$1600 and the minerals purchased of Heuland. [This suggests the catalog was begun around 1810.]

- 11560 Quartz — a large magnificent specimen of Smoky quartz — the crystals belong to the prism, prisme bis alterne, prisme comprime, plagiedre, plagio-rhombifere and co-ordonnee, with feldspar adularia crystallized as binaire and ditetrahedre — on granite. St. Gothard (Switzerland).
- 11569 Matchless specimen of Malachite bought of Mr. Heuland at London for \$750. — "This wonderful specimen," says Mr. Heuland, "my late Uncle Forster purchased at St. Petersburg in 1798, belonging to the collection of General Mellesinow who figured in the times of Catherine the Second. This General it was, who mounted a superb fierce charger, galloping to the summit of an immense rock, where he made the horse rear and prance in a certain attitude, from which the sculptor of the famous Bronze statue of Peter the Great at St. Petersburg took the idea and model.
- "This slab was the admiration of St. Petersburg for a half-century and was valued there in my [Mr. Heuland's] time at 5000 rubles when eight rubles made a Pound Sterling, consequently £625 [= \$3175]. When Malachite was in fashion for jewelry in England in 1807 and 1808 I might have made much of it, but instead, I incorporated it to my private collection at the valuation of £300 only, and to you I parted from it for half that sum.
- "No private collection in the world has the like and all the malachite now raised in Siberia is worked for vases, columns, tables, chimnypieces etc. etc. — so that the very worst quality is sold at £2 the pound weight, whilst fine compact masses fetch most enormous prices. The Owner of the mine, Demidoff (a millionaire), keeps its value up to the utmost. General Mellesinow got it from Doctor Guthrie in whose Cabinet it was seen by Patrin — he says '*Le plus beau morceau de malachite qui existe est peut etre celui qui est dans le cabinet du Dr. Guthrie a St. Petersbourg, ill est estime 20,000 francs = \$4000.*' He commits some mistake respecting its dimensions which he says is 32 by 17 instead of 22 by 17 inches — (see Nov. Dict. dl Hist. Nat. Journ. VIII page 566, and Braed, Min. appliquee aux Arts, Tom. III. page 391).
- "Patrin says (loco citato pag. 553) '*La mine di Goumechefska est celebri partes malachites c'est toutes les mines connues, celler qui a fourni les peus beau morceaux en ce genre; mais ce n'est est que dans les anciens travana qu'on les a trouv es. quand fe l'ai visitee, en 1786 elle n'en donnoit presque plus.*'"
- 12802 Beryl — Emerald — crystallized in hexahedral prism, the edges of the bases are doubly beveled and the angles truncated — the soustractive (Hauy). Of a characteristic green color, a fine luster and transparency; partly imbedded in magnesian carbonate of lime. (A magnificent specimen). From the Muzo mine 25 miles north of Santa Fe de Bogote (Colombia). One of the ornaments of Chantry's Coll. Heuland \$150.- [See Fig. 4.]

- 12890 Anglesite (sulphate of Lead) a fine isolated crystal. I find nowhere a description of its form — it is a right-rhombic prism, the edges of the base emarginated and the obtuse and acute solid angles truncated — and the obtuse lateral edge rounded; assuming the symbols employed in Heuland's catalogue we have $p m b \frac{1}{2}$ or $l a^4 e^1$ Leadhill, Scotland — Heuland.
- 12892 Common Mica showing a series of concentric rhombs, triangles and hexagons, the sides of which are parallel with the sides of the hexagonal prism, Jone's Falls near Baltimore, Md.
- 12893 Brown Iron ore crystallized in cubes more or less rhomboidal — for as much as I have been able to find out by measurement, the angles are about 95° and 85° . No traces of pseudomorphism are perceptible. I suppose this must be considered as the primary form. Lewis Co., Tennessee.
- 13221 Meteoric Iron exhibiting beautiful Widmanstätten figures, of an irregular elliptical form weighing 10 lbs. 4 ozs. Discovered in 1847 near Murfreesboro, Rutherford County, Tennessee. Described by me in the *American Journal of Sciences and Arts*, Vol. V., page 351 Second series.

ACKNOWLEDGMENTS

I would like to thank Ron Wilson, Curator of Collections at the Louisville Museum of History and Science, for access to the collections and the Troost file. Irvin Goldstein reviewed and improved the manuscript, and Wendell Wilson provided the photography.

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Notes from the Editor

(continued from page 130)

of the people who have helped us survive another year. In order to receive an invitation you must fall into one of these categories: (1) you donated something to the previous year's annual auction, (2) you made a cash or material donation during the previous year, (3) you were an advertiser during the previous year, (4) you were the author of an article published during the previous year, (5) you were a volunteer worker for the *Record* during the previous year or helped us out in some way, or (6) you were an entrant in the tennis tournament for that year. The first such party was attended by about 400 people who munched munchies, enjoyed the mariachi music, and mingled with mineral folk for a pleasant two hours around the pool at the Sheraton. (If you *did* fall into one of the above categories, but did *not* receive your invitation to the first party, it means we do not have your correct address, or we committed a regrettable oversight. Please let us know so we can correct our file.) We're looking forward to doing it again next year.

GEO-LITERARY SOCIETY FORMED

The Tucson Gem and Mineral Show has played host to the founding of a number of societies and organizations including the *Friends of Mineralogy* and the *Mineral Museum Advisory Council*. This year another new organization was born there, the *Geo-Literary Society*. Thirty-three people met in the Greenlee Room of the Tucson Community Center on February 10; after some debate they settled on a name for the new society, then elected officers (Alexandra Filer, *President*; Herb Obodda, *Vice President*; Elna Hauck, *Secretary*; Curtis Schuh, *Treasurer*; Fred Pough, *Chairman of the Board of Directors*; Bob Jones, *Publicist*; Cliff Kruger, *Legal Counsel*).

The initial goal of the Geo-Literary Society is to bring together those who are interested in the literary arts as related to minerals, gems and fossils. The sharing of sources and the exchange of information about such books, maps, drawings and related print matter is of prime concern to the group. Western and Eastern divisions of the society are planned. The Western Branch will meet at the San Diego Show (July 12-15), the Eastern Branch will meet at a time and place still to be determined, and the Society's annual meeting will be held in conjunction with the Tucson Show.

Dues of \$10 per year are required, and a newsletter will be published. If interested contact:

Alexandra Filer	Herb Obodda	Elna Hauck
P.O. Box 487	P.O. Box 51	8 Rowe Place
Yucaipa, CA 92399	Short Hills, NJ	Bloomfield, NJ 07003
	07078	

BANCROFT BOOK TO DEBUT AT SAN DIEGO SHOW

Probably with the ink still wet on the pages, the new book by Peter Bancroft (mentioned above) is planned for a debut at the AFMS/CFMS National Show and Convention to be held at the San Diego Convention Center, July 12-15. If it's not quite ready, we will at least have some kind of pre-publication copy for people to examine, and we'll be taking orders. So be sure to stop by our table for a first look.

Incidentally, the Southern California Chapter of the Friends of Mineralogy (Jessie Hardman, *President*) will host an informal meeting for FM on Sunday, July 15, at the show.

THANKS . . .

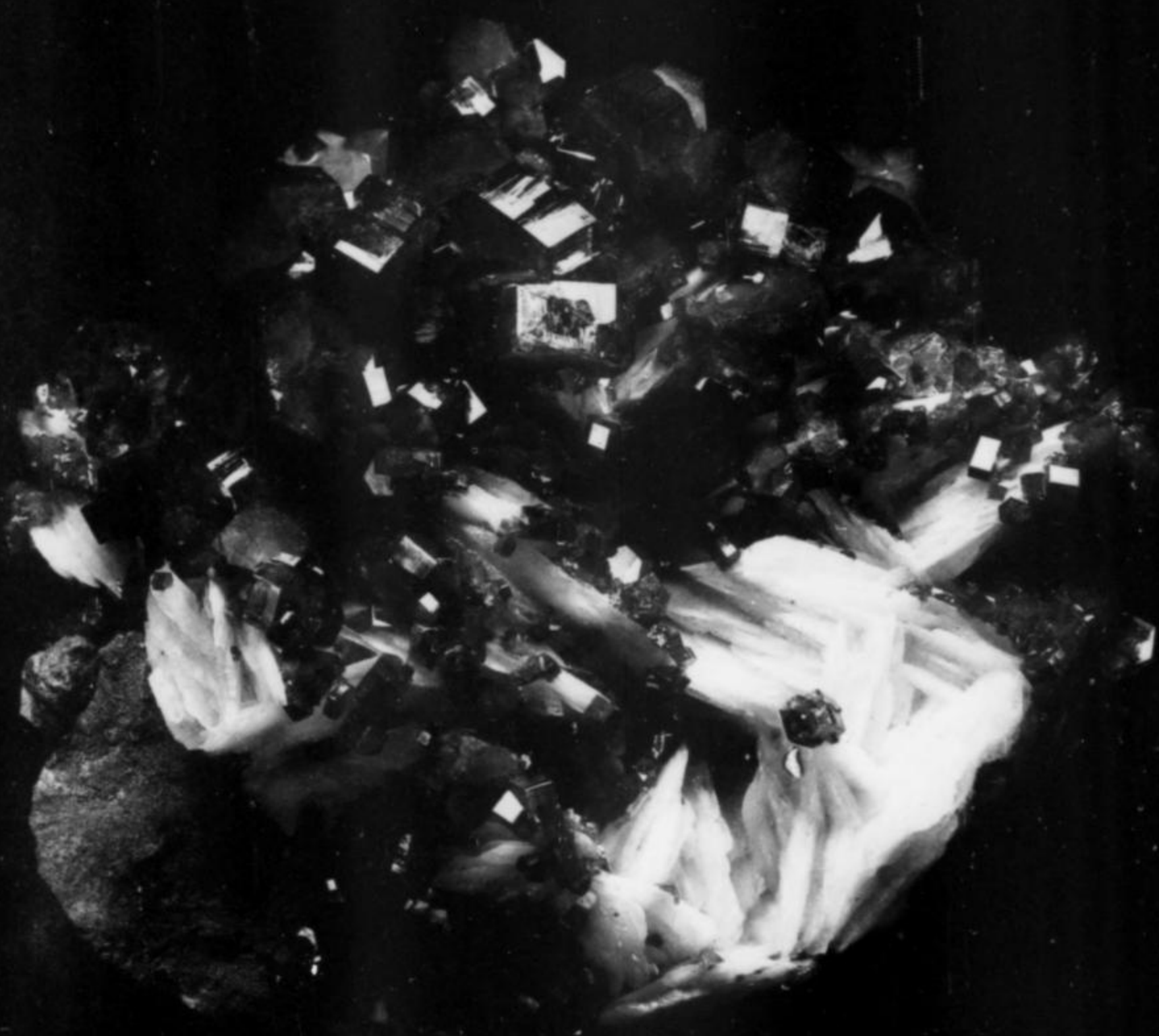
. . . to Randy Rothschild for contributing the funds necessary to publish color in this issue.

NOTICES

Died, Richard H. Jahns, 68, of a heart attack in his home at Menlo Park, California. Jahns, a native of Los Angeles, earned his bachelor's and doctor's degrees at Caltech, and his master's degree at Northwestern. He taught at Caltech from 1946 to 1960, and served as dean of the Stanford University School of Earth Sciences from 1965 to 1979; he was professor of geology at Stanford until his death. He is the author of more than 100 scientific papers, and served with numerous professional commissions, associations and academies, including a term as president of the Geological Society of America. He was expert in many fields of study, from seismology to pegmatite mineralogy and lunar geology. In 1974 the pegmatite mineral *jahnsite* was named in his honor by Paul B. Moore, who praised him as an "outstanding scholar of pegmatites."

Fine Vanadinite

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V I C T O R • Y O U N T

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MINERALS OF

Point • of • Rocks

NEW MEXICO

T*he northeast corner of New Mexico is a stark but fascinating landscape composed of broad mesas and volcanic cones punctuating treeless plains. Though long neglected by mineral collectors due to the apparent absence of interesting mineral deposits, the region contains a previously unknown location which is a bonanza for the micromineral collector.*

INTRODUCTION

Point of Rocks (previously known as Peck's Mesa), located about 14.8 km east of Springer, New Mexico (see map, Fig. 2), has produced a number of uncommon to rare minerals, which occur in esthetically pleasing, well-defined crystals. The suite of minerals, which is similar but not identical to that found at Mont St. Hilaire, Quebec, includes villiaumite, serandite, neptunite, searlesite and lorenzenite in vugs in a phonolite sill which forms the mesa. Point of Rocks mesa is located in T26N R26E and appears on the Point of Rocks 7½' topographic quadrangle. Historically Point of Rocks was notable as a landmark and watering source for pioneers taking the Cimarron Cutoff of the Santa Fe Trail during the period 1820 to 1880. The trail passes immediately south of the mesa.

ACCESS

To reach Point of Rocks Mesa, take US 56 east from Springer, New Mexico, for 14.8 km to Colfax county road C-52 which is the cutoff to the Dorsey Mansion, the architecturally imposing former home of Stephan Dorsey who was a prominent rancher and politician in the area during the late 1800's. Take county road C-52 north for 4.4 km, then turn east on county road C-53. Proceed east for 1.2 km, then turn north on county road C-54. After .6 km, you will reach the home of Pete and Faye Gaines who own the ranch on which the Point of Rocks Mesa is located. Permission to enter the property must be received from the Gaines before proceeding to the

mesa. The Gaines are very congenial and they welcome visitors as long as their ground rules are observed. These are:

1. Obtain permission before entering the property.
2. Do not leave any trash on the ranch.
3. Close all gates behind you.
4. Do not spook the cattle or harm the wildlife.
5. No firearms allowed on the ranch.

The mesa is directly north of the ranch house and the best collecting can be accomplished on the southwest side of a quarry on top of the mesa (see Fig. 2). A ranch road leads directly from the Gaines ranch house to the quarry (about 0.9 km). Passenger cars can reach the base of the mesa, but the last quarter mile to the top and the quarry requires high clearance or a 4-wheel drive vehicle. The quarry was developed to provide rock for the highway (US 56) from Springer to Clayton, New Mexico, and was operated in 1961 and 1962. There has been no activity at the quarry since that time. The quarry is roughly 200 meters long by 50 meters wide and is filled with large angular blocks derived from quarrying into the natural outcrop on the west side of the quarry.

GEOLOGY

Eastern Colfax County in northeastern New Mexico is composed of lava-capped mesas and volcanic cones which form the prominent topographical features of the area. The volcanic rocks of the area

R. S. DeMark
3705 General Chenault, NE
Albuquerque, New Mexico 87111



Figure 1. Point of Rocks Mesa, Gaines Ranch in the foreground. The view is looking north. Photo by the author.

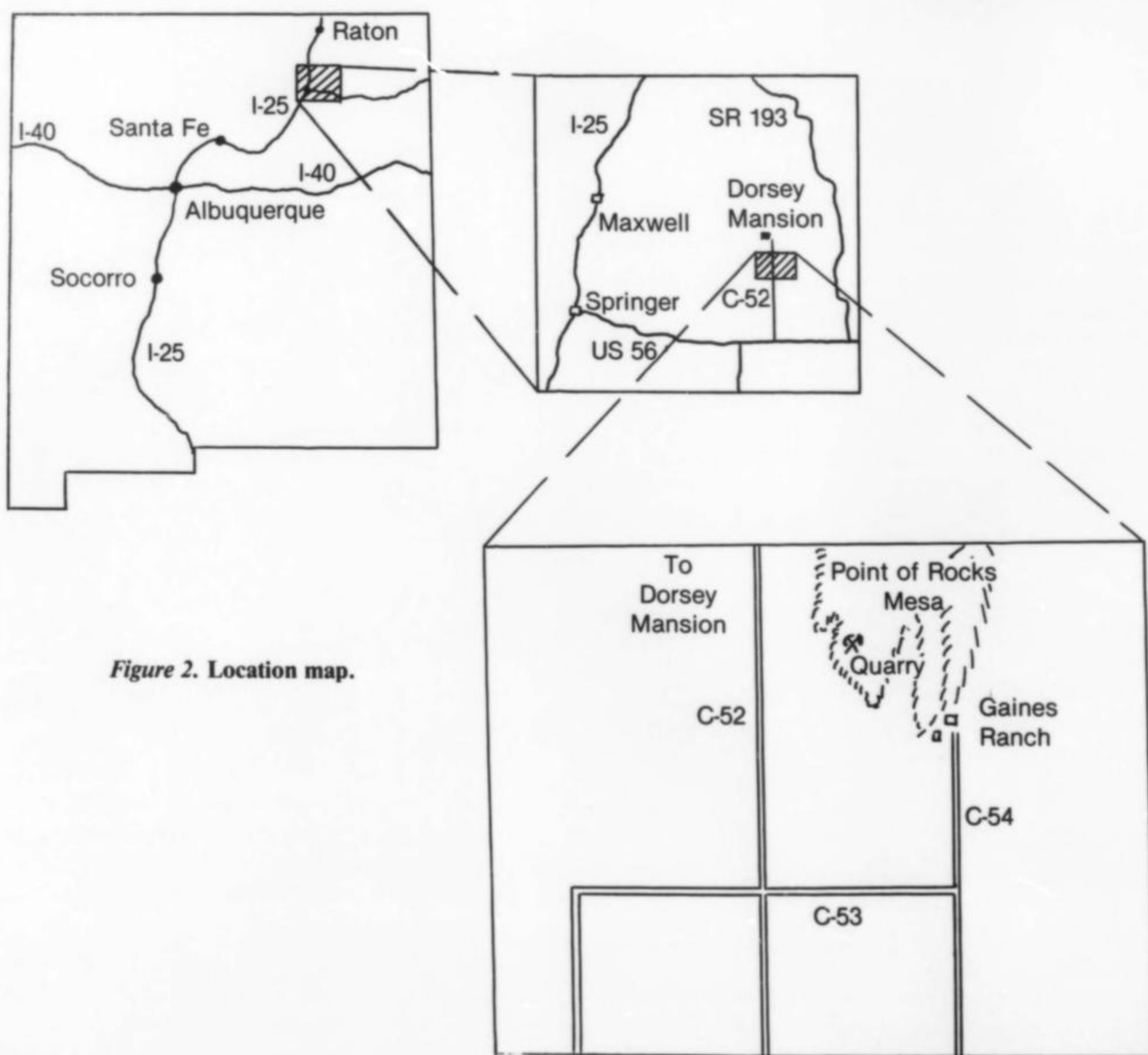


Figure 2. Location map.

have been described by Robert F. Collins (1949) and the petrology of the rocks was described by Helen R. Stobbe (1949) in a companion article. Collins and Stobbe describe a rugged surface of Cretaceous sedimentary rocks with three primary periods of Quaternary basaltic extrusions which have been labeled as Raton (earliest), Clayton (intermediate), and Capulin (latest). Olivine basalts predominate in all three periods and are mineralogically similar but have textural variations. Point of Rocks mesa is capped by a phonolite sill which is part of the extensive volcanic province described by Stobbe. According to Collins, the Chico phonolite of the Point of Rocks mesa is slightly older than the Clayton basalts, definitely younger than the Raton basalts and probably originated by fractionation from a magma whose original composition approximated an olivine basalt. J. C. Stormer (1981) with the U.S. Geological Survey in Reston, Virginia, has studied the phonolite from the Point of Rocks mesa in considerable detail and suggested that extreme crystal fractionation of volatile-rich magmas, similar to lamprophyres found in the area, could have produced this phonolite. Stormer and Carmichael (1970) described this phonolite as having a groundmass consisting of alkali feldspar, analcime and accessory villiaumite, serandite, zeolites and eudialyte, with phenocrysts of aegirine, alkali feldspar and altered nepheline. Fresh rock is a greenish-gray which changes to a dull light-gray after weathering. Vugs, ranging in size from a millimeter up to 6 or 7 centimeters, are common in the rock. The following minerals are found in these vugs.

Alkali Feldspar $(\text{Na,K})\text{AlSi}_3\text{O}_8$

The vugs contain abundant alkali feldspar as opaque, white, tabular crystals generally less than 1 mm in size (Stormer, 1981). Analcime and acmite are invariably associated, and nepheline, cancrinite, eudialyte and polyolithionite are frequently found intergrown with the feldspar crystals.

Analcime $\text{NaAlSi}_2\text{O}_6 \cdot \text{H}_2\text{O}$

Analcime can be found in crystals ranging in size from 1 mm to 3 cm. The larger crystals are usually gray and opaque with a glassy luster. They are always distorted and mutually intergrown and are common in many of the larger vugs, particularly on the southeast side of the quarry. They are not particularly attractive as specimens. Intergrown, transparent to opaque white analcime crystals coat many of the minerals in the vugs, but occasionally a single well-formed trapezohedron can be found.

Aragonite/Calcite CaCO_3

Uncommon. Small white spheres less than 0.1 mm are occasionally found on acmite crystals (identification by Paul Hlava, personal communication, 1983).

Barite BaSO_4

Barite can rarely be found as single, amber to yellow tabular crystals about 0.2 to 0.5 mm in size. The crystals are transparent to translucent and are usually "impaled" on acmite crystals (identification by Paul Hlava, personal communication, 1983).



MINERALS

Acmite (aegirine) $\text{NaFe}^{+3}\text{Si}_2\text{O}_6$

Prismatic crystals of acmite are ubiquitous. Single and doubly-terminated crystals are associated with all the minerals of Point of Rocks Mesa. The color ranges from asparagus green to a deep olive brown which appears black at first glance. The crystals are spear-shaped with steep terminations and are generally less than 2 mm in length. Stormer (1981) has attributed the lighter color of some of the acmite to increased manganese.

Figure 3. The quarry on Point of Rocks Mesa (Peck's Mesa). The view is looking north. Photo by the author.

Cancrinite $\text{Na}_6\text{Ca}_2\text{Al}_6\text{Si}_6\text{O}_{24}(\text{CO}_3)_2$

Cancrinite is found in well-defined crystals throughout the quarry but is most abundant in vugs in the east-center side of the quarry. These crystals are elongated, hexagonal prisms terminated by the pinacoid. Crystals can be found up to 2 cm long but are

Figure 4. The Chico phonolite, showing a typical small vug. Photo by the author.



Figure 5. A hexagonal prismatic crystal of colorless cancrinite about 2 mm long.



generally 1 mm or less across the pinacoid. They are translucent, usually gray and show zoning parallel to the prism. Some of the crystals have a lavender core. The crystals are very delicately attached and hammering usually results in groups of loose cancrinite crystals resembling a group of jack straws in the bottom of the vug. Pete Modreski (personal communication, 1983) has confirmed the identity of the cancrinite by optics, X-ray diffraction and microprobe analysis. He finds that many of the prismatic crystals consist

of a cancrinite core, surrounded by a thin layer of colorless, subhedral to euhedral natrolite, which is in turn covered by an outermost layer of white, anhedral to subhedral analcime. The cancrinite is a sulfatian variety, containing approximately 30% of the sulfate end-member, vishnevite.

Carbonate-fluorapatite $\text{Ca}_5(\text{PO}_4, \text{CO}_3)_3\text{F}$

Carbonate-fluorapatite has been identified by optics and X-ray diffraction by Pete Modreski (personal communication, 1984). The crystals are a translucent white, although some have a pink tint and occur as loosely connected, steeply tapered bundles which tend to disintegrate into fragments when the rock is broken. The crystals are commonly found associated with villiaumite.

Eudialyte $\text{Na}_4(\text{Ca}, \text{Ce}, \text{Fe})_2\text{ZrSi}_6\text{O}_{17}(\text{OH}, \text{Cl})_2$

Eudialyte is common throughout the quarry as small (0.1 to 0.5 mm), transparent, rose pink to cinnamon colored crystals. It occurs as equant to short, tabular crystals and also as scepters. Eudialyte is frequently found in association with analcime. It was identified by Paul Hlava (personal communication, 1983) by microprobe analysis.

Galena PbS

Rarely found as small (0.2-0.4 mm), lustrous crystals. The crystals are usually found in association with sphalerite and exhibit dodecahedral faces.

Hematite $\alpha\text{-Fe}_2\text{O}_3$

Hematite is found uncommonly as small groups of dull, coarsely bladed crystals generally less than 2 mm across.

Lorenzenite $\text{Na}_2\text{Ti}_2\text{Si}_2\text{O}_9$

Lorenzenite is found uncommonly in all areas of the quarry. It occurs in fine, acicular tufts and sometimes as bladed prismatic crystals. The crystals are usually less than 0.5 mm and the color ranges from bronze to mahogany. The larger crystals are often transparent and frequently in close association with serandite crystals. (This is the first reported occurrence of lorenzenite from New Mexico.) The lorenzenite was identified by Pete Modreski (personal communication, 1983) by X-ray diffraction and microprobe analysis; it is a niobium-bearing variety, $\text{Na}_2(\text{Ti}, \text{Nb})_2\text{Si}_2\text{O}_9$.

Mangan-neptunite $\text{KNa}_2\text{Li}(\text{Mn},\text{Fe}^{+2})_2\text{Ti}_2\text{Si}_8\text{O}_{24}$

The identity of mangan-neptunite has been established by microprobe analysis by Stormer (1981) and Paul Hlava (personal communication, 1983). Visually, mangan-neptunite crystals exhibit prism faces that have an etched, uneven appearance in comparison to the smooth faces of the neptunite which also occurs at Point of Rocks Mesa. Mangan-neptunite crystals are also somewhat flattened in comparison to the more equant neptunite. The most obvious distinction between the two minerals is the color; mangan-neptunite is reddish-brown while neptunite appears almost black. The associations of mangan-neptunite are identical to those of neptunite.



Figure 6. Natrolite crystals, colorless and measuring about 1.5 mm, on a white analcime crystal.

Natrolite $\text{Na}_2\text{Al}_2\text{Si}_3\text{O}_{10}\cdot 2\text{H}_2\text{O}$

Natrolite is found most commonly as thin layers of colorless, subhedral to euhedral crystals coating both cancrinite and nepheline crystals. The crystals are short prisms terminated by the pyramid and may reach 1-2 mm in size. Some of the crystals are translucent white while others are colorless.

Nepheline $(\text{Na},\text{K})\text{AlSi}_3\text{O}_8$

Nepheline in well-developed crystals is most abundant on the west side of the quarry near the center. The crystals are short, hexagonal prisms, up to 3 mm long, terminated by the pinacoid. The color of unaltered crystals is dark gray. In many cases the crystals have been partially or completely coated and/or altered to natrolite or analcime. These altered crystals are lighter colored than the unaltered crystals.

Neptunite $\text{KNa}_2\text{Li}(\text{Fe}^{+2},\text{Mn})_2\text{Ti}_2\text{Si}_8\text{O}_{24}$

Neptunite is found throughout the quarry as lustrous, prismatic crystals. Color ranges from almost black with red internal reflections to a blackish red-brown. Crystals average about 1 mm but have been found up to 2 mm. Neptunite is found in association with virtually all of the other minerals in the quarry and must be judged to be one of the most attractive minerals to be found at Point of Rocks.

Opal $\text{SiO}_2\cdot n\text{H}_2\text{O}$

Hyalite opal is found as a secondary coating in some of the vugs. It is usually found only in the outer, more weathered portion of the rock.

Polyolithionite $\text{KLi}_2\text{AlSi}_4\text{O}_{10}(\text{F},\text{OH})_2$

Well-developed pseudo-hexagonal crystals can be found throughout the quarry. Many of the crystals are sharply zoned with the periphery of the crystal being colorless and the center brown. Thin crystals are usually completely colorless and are difficult to see due



Figure 7. A white nepheline crystal 2 mm across, surrounded by black acmite prisms.



Figure 8. A black neptunite crystal 1.5 mm across, with acmite on feldspar.

to their transparency. The crystals average about 1 mm across the pinacoid. Identification as polyolithionite is based on the work of J. C. Stormer (personal communication, 1982).

Pyrrhotite Fe_{1-x}S

Pyrrhotite is found rarely as single, hexagonal crystals and rosettes of platy crystals. Single crystals are generally about 0.5 mm while the rosettes may reach 4 mm. The unweathered crystals have a bright metallic luster and brassy color, while the weathered crystals are more bronze colored.



Figure 9. Eudialyte crystals measuring about 0.7 mm each. This and all other specimen photos are by Julius Weber.

Figure 10. Mangan-neptunite crystal measuring 2 mm, surrounded by black acmite crystals.

Rasvumite KFe_2S_3

The exceedingly rare mineral rasvumite (see Sokolova *et al.*, 1970) has been found at Point of Rocks in what are undoubtedly the finest crystals known for this mineral. The crystals are very thin blades averaging about 1 mm in length. In the occurrences noted, the crystals are usually grouped together in a spray. When the vugs containing rasvumite are first opened and the mineral is exposed to the air, it has an iridescent to purple color with a metallic luster, which soon alters to a bronze color. Rasvumite has only been found in four specimens to date at Point of Rocks Mesa. In all cases, pyrrhotite was found in direct association along with nepheline, acmite, analcime and alkali feldspar. Paul Hlava (personal communication, 1983) has confirmed the identification of rasvumite by microprobe analysis.

Searlesite $NaBSi_2O_5(OH)_2$

This is the first reported occurrence of searlesite from New Mexico and apparently the only known igneous occurrence for this mineral, which is normally associated with evaporite deposits. The crystals have only been found in the southern section of the quarry. They are colorless, transparent and occur singly and in clusters of

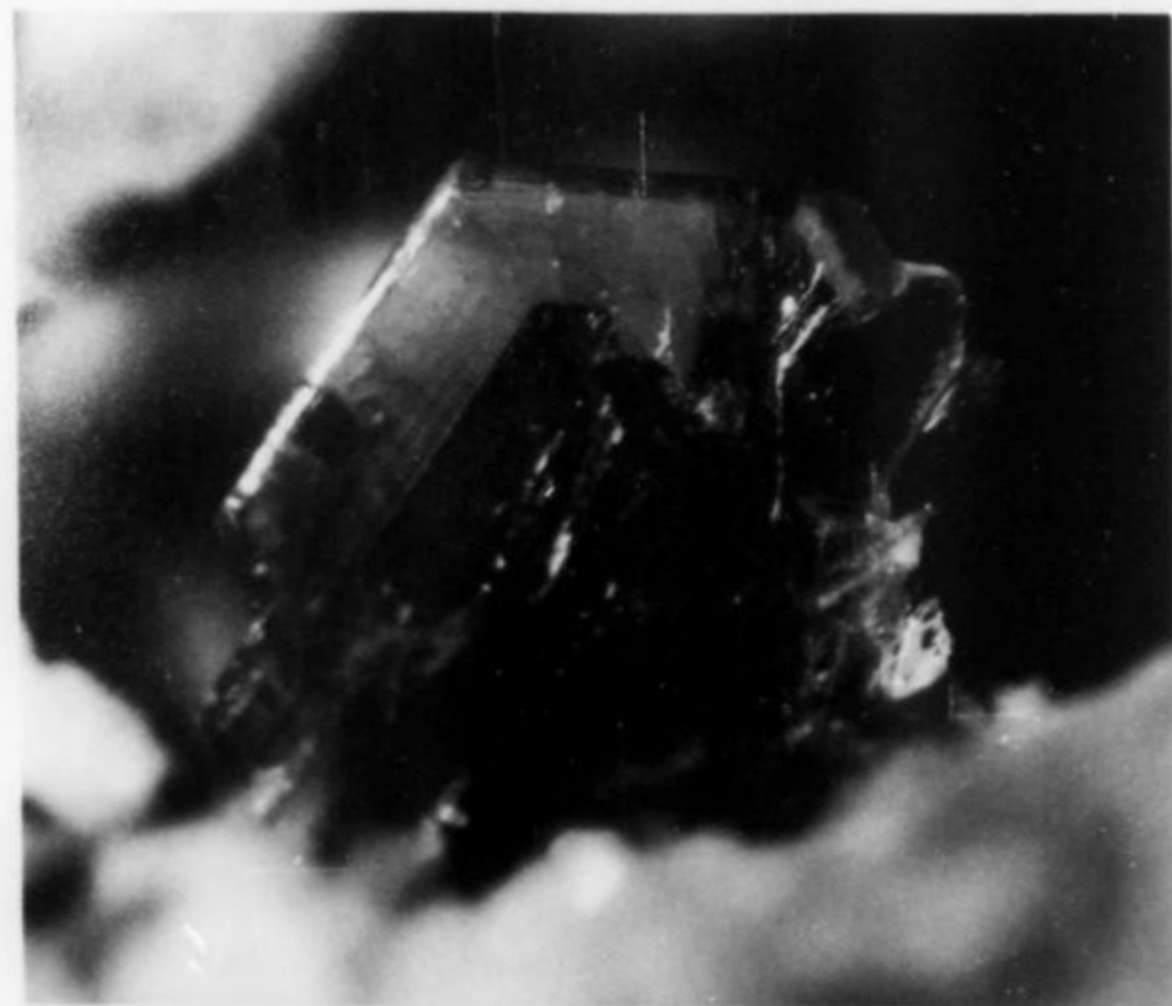


Figure 11. Polyolithionite crystal 1 mm across displaying zoning.

prismatic, chisel-shaped crystals. They are striated parallel to the c-axis. A well-developed cleavage parallel to the prism is a good aid to identification. Crystals up to 2.5 cm have been found. The identity of the searlesite was confirmed by X-ray diffraction by Pete Modreski and J. C. Stormer (personal communication, 1983).

Serandite $Na(Mn^{+2}, Ca)_2Si_3O_8(OH)$

Serandite is found throughout the quarry in well-developed crystals that exhibit several different habits. The most common form is the pyramid with horizontal striations. The termination is usually truncated. Less common is a flat, tabular habit with striations parallel to the long prism faces. The crystals are always transparent and usually colorless although some of the pyramidal crystals have a pale cinnamon color and the flat prismatic crystals may have a light pink tint.

Sphalerite $(Zn, Fe)S$

Sphalerite occurs very rarely but can be found as small (0.2–0.3 mm) transparent, amber-colored crystals. The crystals are generally equant with triangular faces and are associated with galena.

Tetranatrolite $Na_2Al_2Si_3O_{10} \cdot 2H_2O$

The occurrence of tetranatrolite, the tetragonal dimorph of natrolite, has been confirmed optically by Pete Modreski (personal communication, 1984). Tetranatrolite crystals are characteristically white with a pearly luster and occur singly and in parallel groups.

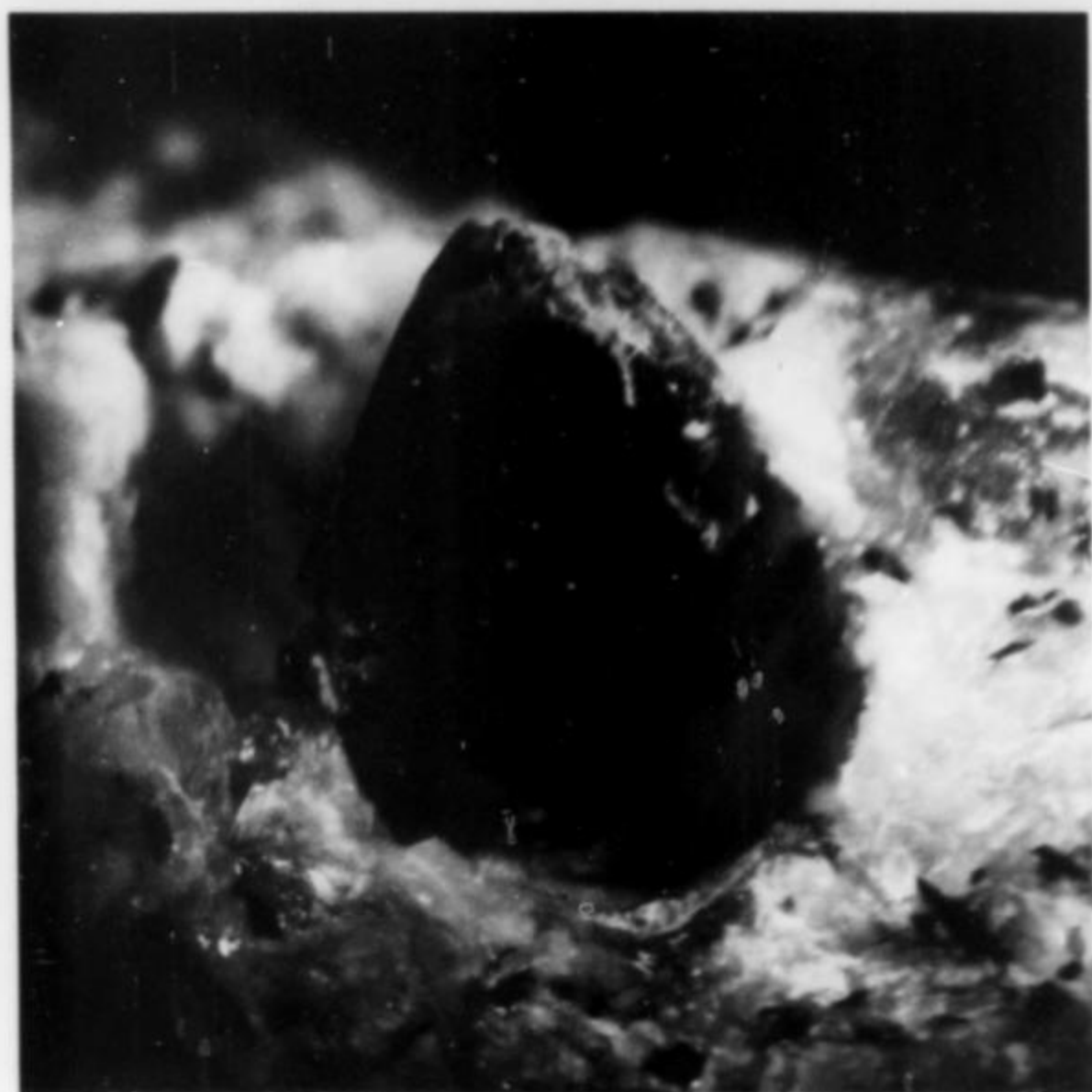


Figure 12. Villiaumite crystal 1.5 mm tall.

The crystals are always in short prisms and are commonly found impaled on acmite crystals or coating nepheline crystals. Tetranatrolite, as distinguished from natrolite, has a characteristically pearly luster, and tends to be milky white instead of colorless transparent.

Villiaumite NaF

Villiaumite is particularly abundant in the southern section of the quarry and is found as octahedral crystals or, more commonly, as

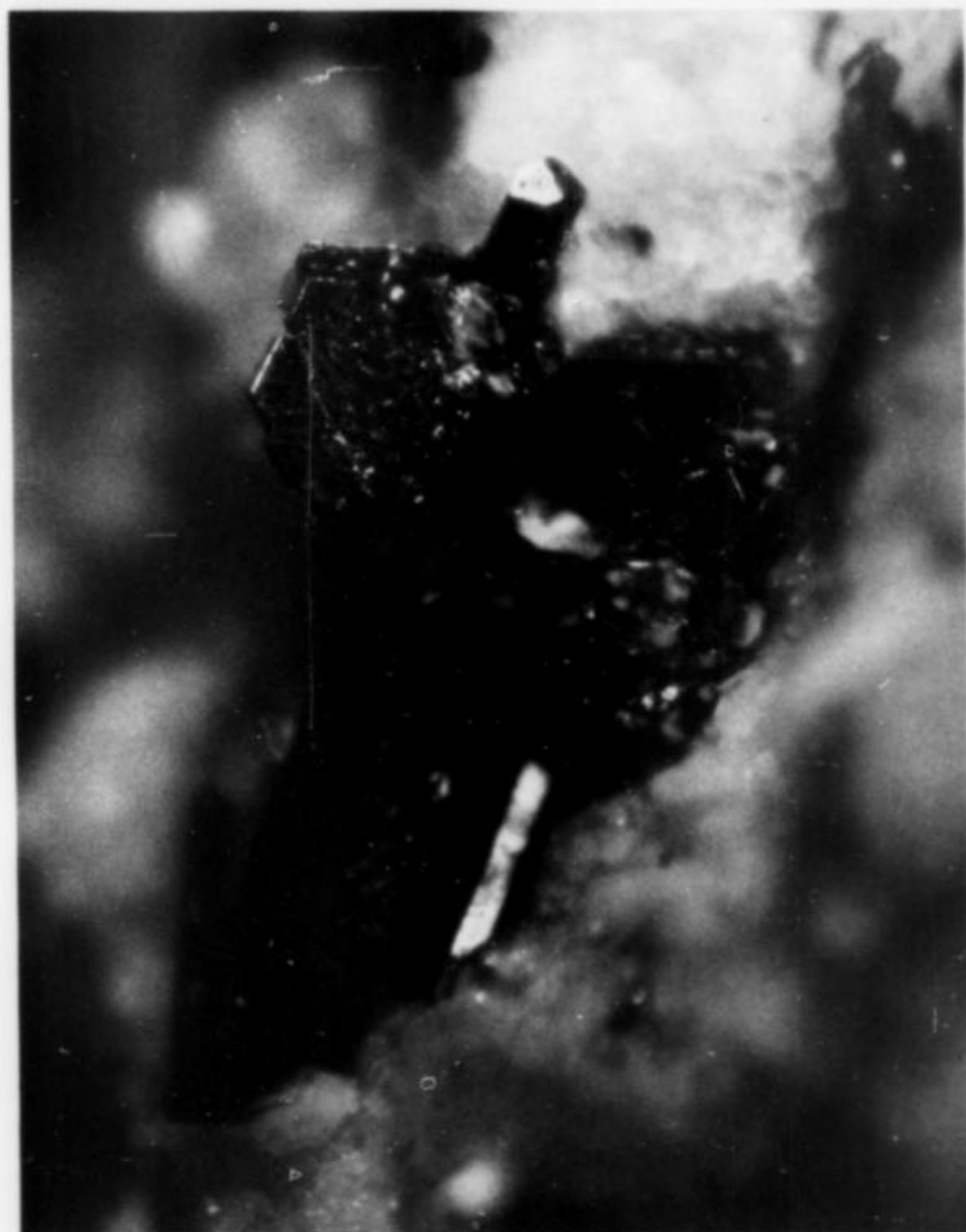


Figure 14. A 0.6-mm pyrrhotite crystal perched on black-red neptunite crystals.

less well-defined crystals up to 1 cm. The color ranges from salmon to pink to purple. Crystal edges are frequently rounded. The purple color gives this mineral the appearance of fluorite but a quick taste test (slightly saline) readily identifies it. Immersion in water will quickly etch the crystal faces due to their solubility.

Unknown #1

This mineral occurs as white "puff balls" of radiating crystals that are brown at the distal end. The balls may reach a diameter of 0.8 mm and can be found throughout the quarry. Microprobe analysis by Paul Hlava (personal communication, 1983) indicates the mineral to be a thorium-bearing silicate with titanium, sodium, calcium, barium and sulfur. The sulfur content is higher in the brown tips.

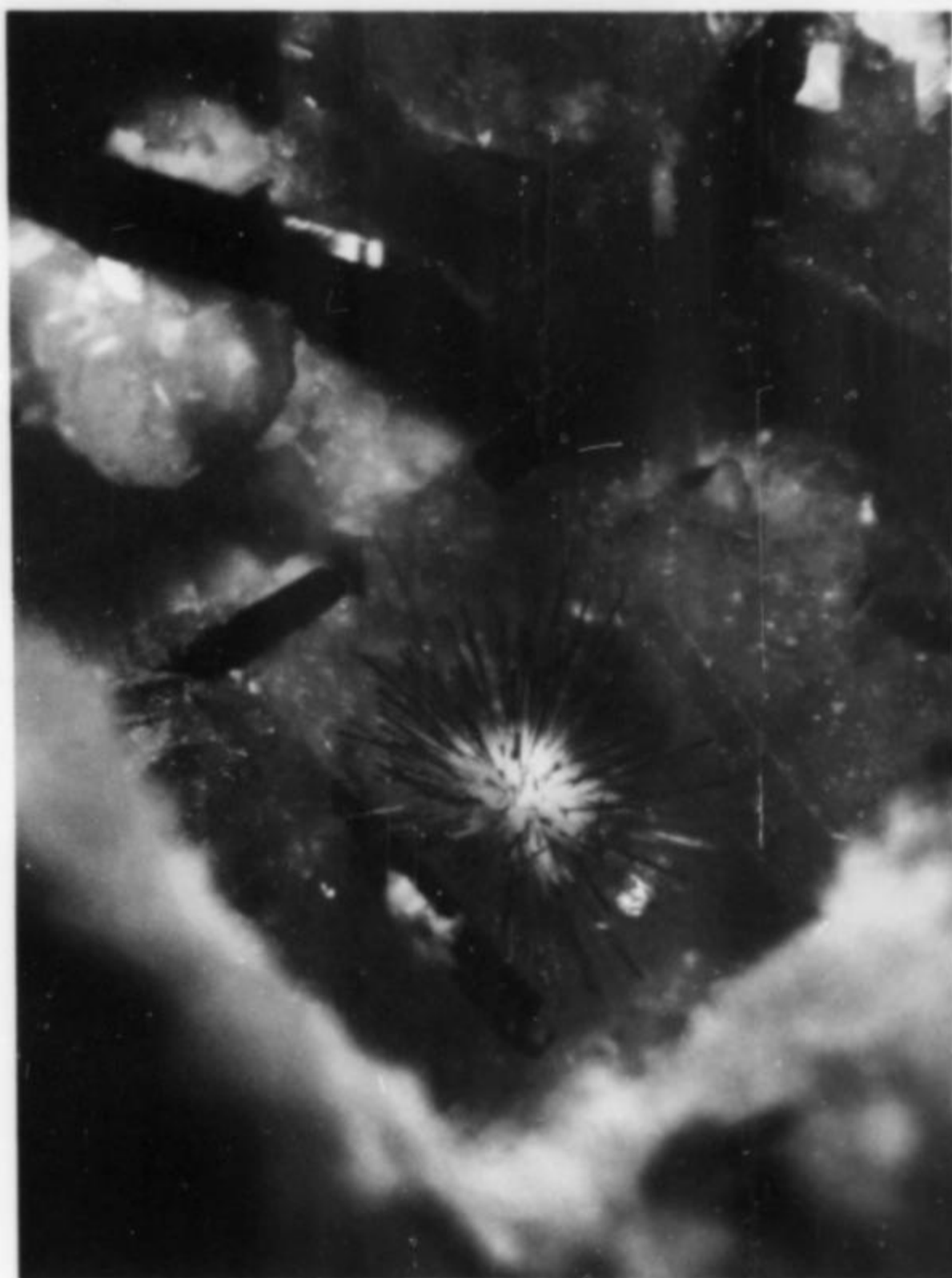


Figure 13. A spray of crystals of unknown #1, a thorium-bearing silicate, measuring about 1 mm across.

Unknown #2

This mineral was found in only one specimen as white octahedrons with a pearly luster. The crystals range in size from 0.1 mm to 0.4 mm. It was found in a weathered portion of the phonolite in association with acmite, analcime and unknown #3.

Unknown #3

Small cream-white colored balls with a radiating crystal structure. The balls average about 0.4 mm in size and were found in association with unknown #2 in a single specimen.

Unknown #4

Prismatic white crystals with a definite greenish tint. The crystals are striated and have a vitreous to pearly luster. They average about 0.6 mm and resemble apophyllite.

Unknown #5

This mineral occurs in colorless, prismatic crystals with steep terminations. The crystals are usually found in radiating groups; single crystals may reach 1 mm. Crystals of the mineral have only been found in the east-central area of the quarry.

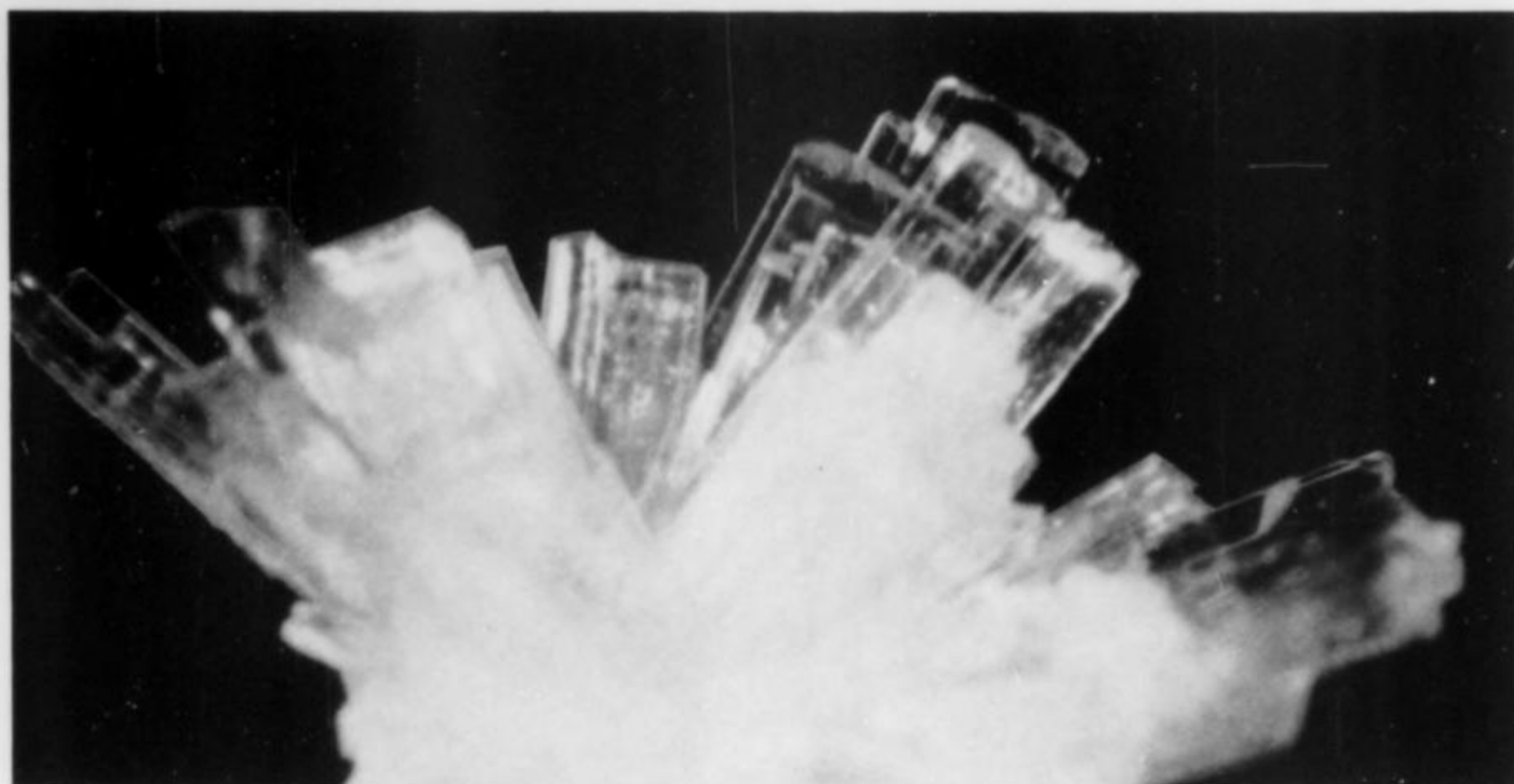


Figure 15. A 5-mm spray of colorless searlesite crystals.



Figure 16. Colorless serandite crystals to about 0.5 mm.

SUMMARY

The collection and investigation of the minerals of Point of Rocks from the mineral collector's viewpoint has just begun. While it is not anticipated that Point of Rocks will become another Mont St. Hilaire, it can reasonably be predicted that many additional species will be identified from this location in the future. The minerals already identified establish Point of Rocks as one of the more unusual locations in New Mexico. The accessibility of the location and freedom from restrictions to collecting make this occurrence of even more significance to mineral collectors in general and micromineral collectors in particular. As the awareness and interest in the Point of Rocks minerals expands, it is hoped that the knowledge gained will be widely disseminated by collectors. For those interested in visiting a prolific mineral locality virtually unknown and unvisited by previous mineral collectors, I strongly recommend a trip to this fascinating New Mexico location.

ACKNOWLEDGMENTS

The report of villiaumite and the petrological studies of the phonolite at Point of Rocks by J. C. Stormer stimulated the author's initial investigation of the area for minerals of interest to the collector. Positive mineral identification would have been impossible without the assistance of Peter Modreski at the U.S. Geological Survey in Denver, Colorado, and Paul Hlava at Sandia National Laboratories in Albuquerque, New Mexico. My thanks also to these two gentlemen for their help in writing this article. The specimen photographs were all provided by Julius Weber.

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Santiago to Valparaiso

Mark Chance Bandy, 1935

On July 17, 1935 Mark Bandy, the noted American mining engineer and mineralogist, left his home in Redfield, Iowa, to begin the long journey to Chile. The diary of his three-month expedition in search of mineral specimens for Harvard and the Smithsonian makes interesting reading.

This is the third of three parts. The first installment appeared in the November-December 1983 issue; the second in the March-April 1984 issue.

SANTIAGO

My heart almost dropped through my shoes when I went to buy a ticket at Serena, and also a berth, and the boletaro said there were no berths left. I made that trip once without a berth and about died, and I didn't feel equal to it on this particular trip. I got on the train and asked the pullman porter if he could get me a berth some way. He said there was a pullman car on the train that was entirely empty. I went back and sure enough there was. I returned to the station and still couldn't get a berth. I hunted up the station master and the conductor of the train and they said to buy my berth in Coquimbo. Which I did. Strange people these Chileans.

I thought that I had lost my typewriter when we arrived at Coquimbo so I got hold of a fellow I thought was the porter. When he would do nothing about it and said to see the porter I got very indignant and started for the station master; then I ran into the *real* porter. The other fellow was a first class passenger. I got my typewriter.

We arrived at Calera an hour and fifteen minutes late. I was quite bowled over by the new concrete station there. A dining room and lunch counter and all modern conveniences. Really a fine looking station. Being late, they produced a special express train that took us direct to Santiago.

I would hardly know Santiago. At the corner of Alameda and Arturo Prat they were putting up a great white concrete building with very modern architecture. A striking looking building if not exactly pleasing to one's eye. The arcade on the Plaza de Armas was

being rebuilt along modern lines and instead of two streets through the block there were four, not all completed, cutting the block up into eight triangular areas. It will be most good looking when completed.

When I registered at the hotel the clerk gave me a telegram. It was from Vince and was forwarding a telegram from Julio Gumucio at Llallagua, Bolivia. He stated that "Actually" he would sell his collection of minerals. It is the finest collection in Bolivia, and Haley and I had been talking of it not two days before. I had remarked that Gumucio never seemed to need money and so never sold any of his specimens. Haley said he thought that Gumucio wanted to be *the* mineralogist of Bolivia. The telegram was sent from Cochabamba and I imagined that he had been talking to Ahlfeld and found out what very high prices Palache had paid for his collection, and Gumucio was looking for some easy money. I wired asking the number and price and mentally formulated the telegram saying the price was too high. If he asks a cent less than \$5000 I will be surprised and I would recommend buying the collection for \$1500. *Vamos a ver* (we shall see). A bath that I needed badly and a shave, and I went out for a walk and a look around. I thoroughly enjoyed it but the traffic was hard on me. I was almost run down several times.

Friday dawned slow and dull for me. I ordered breakfast and read the paper and ate in bed. The first stock market report I had seen in three weeks. I hadn't missed a thing. After dressing and shaving I went down to the Quinta Normal and looked up Sr. Nelson there. A very nice man. I asked about the Jackson Collection and found that he had sold it a year ago to the Copiapo School of Mines. That explained the fine crystalline specimen of proustite there. That was the one that Don Juan Carrasco had seen. But

condensed and edited by Peter C. Keller
Earth Sciences Division
Los Angeles County Museum of Natural History
900 Exposition Boulevard
Los Angeles, California 90007

from Nelson's description of the collection and the price paid (150,000 pesos), there had been a lot of specimens lost somewhere along the line. I looked upstairs in the building at the National Museum of Chile collection and it was in the same rotten condition, and with the same bunch of poor specimens that were there in 1933. The only change was that the specimens that were on the floor were not there. However, the collection of Sr. Nelson was much better and he had a beautiful little specimen of proustite that I certainly hoped I would be able to acquire. Then he produced a set of three specimens of cerargyrite that were translucent and white or colorless. Remarkably light specimens. I also hope to acquire these. A couple of interesting specimens he had held out of the Jackson Collection, one of which looked for all the world like a Bristol, Connecticut, chalcocite except for the gangue. I had my eye on that too.

He told me of the proustites in the collection of the Miners Institute at 759 Moneda. I left with the agreement to meet him there later. I walked slowly back up town and on to the Institute. He arrived soon afterwards and I was presented to a most charming man, the director, Sr. Pedro Alvarez Suarez. Sr. Alvarez spoke very good English but I had to continue in Spanish as Sr. Nelson didn't speak English. Almost at once they produced a wooden box and from it a good group of proustite crystals of rather dark color, about 1.5 x 3 x 5 inches. Then a smaller specimen with some better crystals, although many were broken and bruised. And *then* a truly magnificent specimen of a single crystal, almost an inch through, 2.5 inches long and with perfect, flat rhomb terminations. The prisms were badly formed of vicinal faces but that didn't detract from the specimen. It was of an excellent color and a truly magnificent specimen. It was not attached to the matrix. The price in my mind started at 3000 pesos and the longer I looked at it the higher it went, 4000, 5000, and by the time I left I would have paid 7500 pesos for the single crystal. That was plenty of money in good dollars but the crystal was worth more I am sure. The question of keeping specimens and making collections came up and Sr. Alvarez was so sincere in his asking and I felt the need of it so much that I promised to write a paper for the bulletin on the subject of mineral collecting and mineral preservation. I hope it would bear fruit for the two museums. I left with the proustite specimen in my mind and in my eyes all the time.

Lunch at a counter and then I resolved to eat a decent meal at night at the Bahia. The name of the institution that Sr. Alvarez headed was the "Sociedad Nacional de Minería."

A slow start for the day but I managed to get my breakfast completed and get over to the office of the Imperial Chemical Industries by ten o'clock. Ran into a great big crystal of alum there. A truly fine octahedron with edges over three inches long. I had a long talk with Jenkins and then with the manager Crawford. A very nice fellow evidently married to an Anglo-Chilean, for her grandfather owned a mine at Chañarcillo (I believe his name was Peralta). Crawford told a funny thing regarding the mine. The old fellow made a great fortune out of the mine and then in his old age used to give away twentieths of the mine to very close friends. When he finally died it was found that he had given away about 25 twentieths and the fun began. All his close friends started a fine and large lawsuit to see who should own the mine and who shouldn't. The thing ran on and on in the courts and before it was settled the mine gave out and closed down and the people all lost out, gained nothing and were out the cost of the lawsuits.

Obtained a rather fair specimen of fibrous epsomite and left with an appointment for 2:30, "hora Inglesa." I received word that the Neuenschwanuers had a package from Carlos and to call. I did. It was a bunch of massive cuprite and a specimen of the usual vanadium ore from Copiapo. There was one fair specimen of sulphur that was crystallized and not badly bruised. I couldn't get out of buying it hardly, so offered 75 pesos with the prayer on my lips that he wouldn't accept it.

I stopped and told Sr. Alvarez to put my name on the article about mineral collecting and gave him a list of dealers, The National Museum, Harvard University and Mr. Bandy. Nothing will come of it but it was too good a chance to pass up. Returned to the room, hot and tired.

Returned to the Imperial Chemical Industries in the afternoon and met a Sr. Ossa, someone who was of no help to me but might be of some help later. Made a date for the following Monday and then went to a movie in the afternoon. A poor movie as a whole and I didn't enjoy it much. Having nothing else to do I returned to the I.C.I. office at 6:30 and went to the British Club with Jenkins. A nice place and a bunch of "hale fellows well met" there. I met a mining engineer, American, good looking chap. Had several drinks and in the interim met the manager of the Victor Company in Chile, and then a young fellow named Pocock or some such name. I knew I had met him somewhere before and said so but he felt sure we hadn't met. Finally, having the mental processes well oiled, I remembered that he was a chap who was on the train from Iquique coming to Santiago at the same time I was on my way to Easter Island. I told him and then he remembered riding from Calera to Santiago, etc. The party broke up about 8:30 and I returned to the hotel and then to a late dinner at the Hotel Savoy that wasn't very good, and then to bed. I borrowed a big Dana from Koeberlin and went to sleep with it.

Awoke early as usual and couldn't sleep. Got the paper and read until eight and then ate breakfast and dressed. At the appointed time I presented myself to Leighton at the Escuela de Ingenieros and he met me as pleasantly as ever. He soon took me upstairs and introduced me to the collection.

A really very good collection for Chile and a very fine collection in comparison to other collections here. If all other collections in schools, etc., that I have seen were combined and the best specimens selected, the school collection would be twice as good. He produced a really beautiful proustite with the crystal about an inch across the base, a pyramidal termination only and about two inches long. The edges of the flat rhombs on the termination were bruised but it was really a very good specimen, about 2 x 2.5 x 2.5 inches. A little dark in color and Dr. Bruggen said when he came to the school he had found it thrown in an open box exposed to the sun.

Then I ran into the Domeyko collection and it was fine. Each specimen carefully labeled and chemical data on many of them. I started taking what I dared, that is setting them aside to ask him about them later. He left me in the museum and gave me the run of the place. When I met him Leighton suggested that they sell me some specimens but Bruggen said they couldn't. The specimens I selected were for trading. When Bruggen came in I asked about one of the amalgam specimens I had selected and he was willing to part with it so I decided that the bars were more or less down, and he didn't appreciate the value of the Domeyko type specimens. He told me he had to leave for another building and would have to lock the museum; we made a date for Saturday morning. I gave him the specimens I had intended to give the Copiapo school and departed. I had selected three specimens, amalgams and a specimen of lapis lazuli from Ovalle. They had some nice gypsum crystals and specimens from Braden.

I walked from the school to the Quinta Normal and presented myself to Sr. Luis Nelson. He greeted me very pleasantly and then produced a truly fine specimen of argentite from the Dolores Tercera mine. It had one large octahedron of parallel growth crystals fully an inch on the girdle edges. One side of all the crystals was coated with quartz or carbonate crystals. The entire specimen was bright and clean and all in all a fine one. A specimen from a friend. He got out his proustite crystal and the cerargyrite and proustite in asbestos specimens. I offered him \$10 for the argentite (a \$30 specimen if ever there was one, maybe \$50) and \$20 for the proustite. I placed a value of \$100 as a minimum and \$200 as a

maximum for his collection. He didn't think much of my offer for his specimens, I could tell. He called his friend and accepted the \$10 for the argentite and then took me upstairs to have a look around at the collection.

It didn't look any better to me than before. He had a Knappenwand epidote that I almost tried to get and then decided that the complications were more than the value of the specimen. Finally he led me around to a collection of specimens that they had obtained from Brazil. And there was a hematite in a book of crystals, half of it preserved and fully seven inches across, bright and lustrous. I had never seen such a specimen of hematite. Along in the same collection was a pseudomorph of limonite after pyrite, a crystal of pyrite about 4 inches on the side. The pseudomorph was hollow and one corner of the crystal, a cube, opened into the cavity within the pseudomorph. The sides weren't displaced. There were three other groups of pseudomorphs after cubes over two inches on the edge. That collection certainly whetted my desire to go to Brazil. But I knew I never would.

We made the rounds of the collection and then he told me of about 100 cases of specimens that they had in a warehouse that had never been opened and he hadn't the faintest idea of what was in them; no one else had ever seen the inside of the cases or knew what was to be found in them. I just got all warm and chuckly and fairly glowed internally. My! My! My! We returned to the office and he gave me the argentite and without a word packed his specimens and then we went through his collection to his office. He had about a hundred small specimens, odds and ends from the Jackson collection that he hadn't given them. He offered me several specimens as gifts. None of them had labels but I only took specimens I was sure of the locality. I got a very nice crystal of chalcopyrite from the famous Cerro Blanco locality, and a rare crystal of chalcocite from the same mine. A blue asbestos from Chochabamba, Bolivia, then I asked about a specimen, a good one, of cylindrite and he said it was a specimen of stibnite. I asked if he valued it and he said no, to help myself. It had one crystal about a half inch across. Dr. Bruggen gave me a few crystals of aragonite from Coro-coro and Nelson gave me some pseudomorphs of copper after aragonite from the same district, so that completed that suite. I needed only a good specimen of the native copper in arborescent form and a specimen of the fine celestite from the same locality and I would be all set.

Nelson dropped me at the Oddo and said that if I was interested and would care to come to the Quinta in the afternoon he would go through some of the cases with me and we would see what we could find. Did I jump at the chance?

I arrived back at the Quinta and Nelson took me first to one building and here was a great pile of specimens laying here and there all over the building. Most of them without any labels or the labels all mixed up. I started going over the mess and he watched a while and then went to open boxes in another building. I found labels from Colquechaca and looked very closely for specimens that might be argyrodite or canfieldite but I didn't see a thing. I did find two fine specimens of amalgam, var. bordosite, and a specimen of linarite that I was sure was from Los Condes. I suggested they take the rest of the collection and grind it all up and sample it and sell the thing for the copper, gold, silver and lead content. A kid starting up could have obtained a fine collection from the stuff. Nelson appeared and said it was impossible to get to the boxes and that ended that thing. I wasn't going to waste the day so went up into the museum and spent the afternoon, or what was left, rummaging through the great mass of specimens in the bottom of almost all the cases and going over every specimen that was interesting in the collection. I took out a specimen of calcite and one of gypsum crystals and got them for the asking. As I started to leave I thanked him for all the favors, and told him to send any specimens to the two museums and they would give him a good price for them. He asked about the specimens he had offered me and I told him by all means

to send them and then he said "Why don't you take them and send me the right amount for them." A clever move on his part. I took the proustite and left.

Friday was an "All Saints Day" and the city was closed up commercially, but extremely active socially. I walked around the Plaza a little and had a shine and listened to the music and then wrote and read until lunch. A light one and then at 2:30 I presented myself at the home of the Domeykos and was received by Casimiro. After the proper amount of polite and desultory conversation, I was presented to the collection.

The collection consisted of about 2200 specimens of which about 250 were of good quality and the rest either high grade ores or some such matter and the greater part very inferior specimens. A great amount of the collection was mislabeled, with either the mineral names wrong or the localities wrong. The localities I recognized as being wrong were very few however. The foreign mineral specimens were very poor. There was an excellent section of molybdenite specimens from Chile, no crystals but a good group of specimens. Some of the gypsums were nice but not even second-class specimens. A good group of diamond crystals for a private collection. One octahedron with several other faces. A good but small cube with dodecahedron modifications. There were 14 meteorites of secondary quality. Two were specimens of the Imilae meteorite. The sulphates weren't as good as they might be. The silver section was large but of rather poor quality. Specimens from many places but no good crystalline specimens. Of course the collection had a value due to the fact it was collected by Domeyko and all the labels were his own. Many specimens had letters connected with them and analyses as well. Discounting the poor quality of the collection as a whole and granting the origin I placed a valuation at 50,000 pesos. That represented \$6000 in 1929 and \$2000 in 1935. I asked them what they valued the collection at and they said \$8000. I asked them how they arrived at this valuation and they said that Dr. Bruggen had evaluated the collection at this price. I said frankly that I thought the price was much too high. In the interim of the examination I had met the other brother, Ignacio Domeyko. I finished my examination and then washed and we all had tea. A very pleasant time was had by all and I thoroughly enjoyed meeting the two men. They were certainly most hospitable and pleasant. Of course, I was a man with money to them and a prospective victim.

Apparently tetrahedrite-tennantite was a fascinating mineral to the old chemico-mineralogists. Don Ignacio Domeyko had specimen after specimen of massive tetrahedrite, and the fact that he had As, Sb, Ag, etc., in varying amounts in apparently the same mineral intrigued him greatly.

Arrived back at the hotel about 6:30 and then went to the show at some theatre. A bum show as a whole. I never saw a city as large as Santiago that had as poor a collection and as poor an assortment of shows. All the theatres run a picture for a week and some of them for two weeks. How they can make that pay is beyond me.

An indifferent meal at the Bahia and so to bed.

Saturday was a poor day. I woke early with a painful stiff neck. I got my meteorite from the I.C.I. and also their large artificial octahedron of tschermigite. I packed all the specimens I had on hand and marvelled at the weight and the dumb idea of trying to carry them, but I saw no other way out of it. They were certainly heavy and hard to handle. I went to the office of Ignacio Domeyko and he was the Polish Consul here. He had a letter from Palache asking for a description of the collection and also said there were letters from Wetmore. He couldn't find them nor could he find the catalog of the collection nor could he get in touch with Sr. Montenegro who had the collection for sale. I left and went to the School of Engineering after getting two pictures of Don Ignacio.

At the school I couldn't find Bruggen and ran into an assistant who knew nothing and never would. As I was leaving I ran into a janitor and he said he had been looking for me. Dr. Bruggen had

had to leave, and he was to let me into the museum. I went in and rolled up my sleeves and started right through the collection, the Domeyko section, with a fine-toothed comb. I selected a specimen of percylyte and schwartzenbergite, and soon after Dr. Bruggen appeared. He showed me the sulphate section that I had already looked at. I hinted strongly for a specimen of the paposite or a part of the specimen but it was sealed and I couldn't get any. Their melanterite and pisanite was all kroehnkite. They had a fine specimen of natrochalcite labeled atacamite. Their sulphates were in the same terrible shape that the sulphates in every collection are, with the exception of Harvard and the Smithsonian.

He had to leave in a short time and had to lock the building so I had to leave also. I didn't get much but I did get three specimens that were very valuable, two especially so, from the Domeyko collection. While I was at the school Ignacio D. called me and said he had the letters from Wetmore. Dr. Bruggen dropped me near the center of town and I went to the office, and here were two letters saying that they had had the catalog and Foshag had gone over it and they would offer \$3000 for the collection, without the meteorites, as they were valueless to them. Packing and shipping at the expense of the family. And Foshag said that Montenegro never answered their letter. Something was wrong somewhere.

At the school I asked Bruggen how he arrived at the valuation for the collection and his answer was illuminating. He said he knew nothing of the value of collections so he had taken the catalog that gave the description of the specimens, size and weight. He then took Dr. Krantz' catalog (the highest priced dealer in the world) and would take a specimen of argentite and it weighed 500 grams according to the catalog. He would look up the price of argentite for school use, in Krantz and then value the specimen thus. Of course he lumped them all together, all argentites, all proustites, all native silvers, all native coppers, etc. He never looked at the collection. He was very apologetic regarding the valuation. He should have been.

When I went to the school I got in a taxi and when I arrived I took out four pesos and gave the driver without asking prices and he thanked me and drove off. I had put up a fight the other time at a price of five pesos and the driver of that cab got very indignant and said he was giving me a reduced rate as it was. If I had gone to the school again I would have given three pesos and seen what the reaction was.

About three I went down to see the collection of Dr. Lois. He was busy but I started to go through his two cases of specimens and he talked to me between patients. Immediately he came to the subject of proustite and said he had some. He produced a very nice specimen, 2 x 3 x 4 inches, with a mass of crystals on quartz, from Chañarcillo. The crystals had good faces as a rule and the specimen was not badly bruised. The color was good. The largest crystal was probably a half inch long. He said he would be willing to sell it to me. I said it wouldn't do for the museum but I might buy it for my private collection and asked the price. He said, "A man offered me 15,000 pesos for it once and I would want that now." I said the price was out of reason and returned to the collection. The more I thought of it the madder I got. He must have thought I was just a plain dithering idiot with no idea of the value of specimens. I selected five specimens to see if he knew minerals or not and of the five there were two that I wanted. I produced a specimen of cinnabar from the mine near Serena and asked him what it was and where it was from. It was without label. He looked at it very learnedly and said, "copper oxide, probably from around Copiapo."

I produced another specimen of almost pure proustite and native silver, from Cimbero I was sure. He recognized that as a very high grade silver specimen and put it right back. I hinted strongly for the cinnabar but he put it back. The next specimen was one of cylindrite from Bolivia. He said it was wolfram from Chile. Then I pro-

duced the two I wanted badly, one a truly fine specimen of pyrrargyrite from Tres Puntas I was sure. A valuable specimen. He looked at it with the same professional air and said, "wolfram also." I said "May I have it" and he said yes. It went into my pocket so fast he blinked. The next was one that even I didn't know. It was a yellow mineral of lead I was sure, probably schwartzenbergite, with native gold in small wires on part of it. A most peculiar association. I asked him what it was and he said, "Sulphur." I asked for it and he said "yes" and it disappeared likewise. From specimens I had seen I was sure it was from Paposita. Having what I wanted I almost immediately left. He hinted that the specimens he had given me might be worth something but I pretended not to understand and left.

Dinner at the Bahia and a good dinner through the first courses but when I came to the roast duck it was rotten and I got very indignant, and that didn't help the rest of the meal any. But I finished by eleven o'clock which was a fashionable hour so that helped some. The hotel and finished packing and to bed by midnight.

After leisurely dressing, shaving and packing I breakfasted and then paid everyone on the hotel something and got all the baggage in a car and sailed majestically down Ahumada to the station. When I attempted to get two red caps to handle the baggage they were not strong enough. One package one of them jerked several times trying to get it off the platform and I shuddered. Finally I took it away from him and carried the heaviest one myself to the train. Off to Valpo.

VALPARAISO

It is certainly a nice ride from Santiago to Valparaiso. The train is fast and clean and the road bed not too bad. One passes through a fairly rich part of Chile and the scenery is pleasant, with the steep mountains or hills and the rather broad, fertile, intensively cultivated valleys. I saw many old and familiar landmarks on the way.

When I arrived in Valpo I went to the Hotel Royal with the fellow that met the train and two red caps took my baggage on a hand truck. After I got the stuff in my room there was the usual difference of opinion over what constituted a high price for the transportation. I gave the two fellows eight pesos and they set up an awful howl. They wanted fifteen and then I set up a louder howl. After a lot of argument on both sides I got tired of the business and while I knew they were paid the regulation amount with the eight pesos, I finally gave them two pesos more, one each, and they went away muttering and I closed the door muttering as well, at least until I got it closed. Great life that. Changed my clothes, got a suit ready for the cleaner and some laundry ready and then had lunch.

After lunch and a turn around I finally presented myself to the office of Mauricio Hochschilds and found Mr. Rosenblum out but made a date for 5:00. Walked around and looked at Valpo and again marvelled at the fine assortment of building stones, both granites and marbles, that had been used in the various banks and buildings of the city. Valpo is indeed unique in my experience in this respect. Looked over the shows and selected one that I hoped to see in the evening and at five returned to Hochschilds and asked again for Mr. Rosenblum. He showed me the collection, in six large boxes in a small office with an assortment of smaller tin and pasteboard boxes. I was given a small office and told to go through it to my heart's content. I started in and in a little while was both pleasantly surprised and disappointed with the collection. Some truly fine proustites in fair condition and a couple of boxes of wire silver. One specimen of bromyrite and then box after box of unlabeled specimens of the rich Chañarcillo silver ores. I have never seen such a mess of extremely high grade silver ores in my life. It was pleasant to go through so many specimens of such a class. They were unlabeled. I recognized some of the Cerro Grande chalcopyrite specimens and a Andacollo malachite. I took them. A great

chunk of asbestos that I supposed was from Chañarcillo. The last box was a wierd assortment of slags of copper ores, massive native copper, copper bars and scrap and odds and ends including even wood.

While I was working on the collection, in came a Mr. Herzenberg, Dr. Robt., the chief chemist of Hochschild's at Oruro. When he told me that, I recalled him as the man with the second best collection in Bolivia. We talked mineralogy for a while and he extended me an invitation to come and see his collection. I accepted, knowing that I never would, probably. He told me that he had sent over some specimens from Argentina to Dr. Schneiderhohn at Freiberg, specimens of selenide ores, and in a single specimen that he polished, Dr. Schneiderhohn found six new minerals. I judge that the specimens were from Cacheuta, Mendoza or near there. Herzenberg, like all chemists turned mineralogists, felt evidently that a chemical analysis was all that was needed for determining and delimiting a new mineral species. That's the trouble with many groups of minerals today. Too many analyses on mixtures and too little crystallographic work. Gumucite is a fair example of such work and I believe that it was named by Herzenberg. He talked about the mineral penfieldite that Gordon named or penelopite. I would have to have a mineralogy text to recognize that mineral or name. Another mineral that he spoke of as having named recently was ahlfeldite, and another one with some German professor's name that I couldn't recall. He rattled off new names of minerals all the time. He said that Ahlfeld was writing a mineralogy of Bolivia and then was going to write a book on the geology of Bolivia.

He left finally and I left soon afterwards to go to a show and return the next morning to finish the examination of the collection. I couldn't get over such a collection of rich ores of silver and in many ways, such a fine collection, being without labels or catalog.

A long if none too excellent show. Very old pictures. A late dinner and a talk with the Lentz family. They were going to the states in the near future. After dinner I read a while and then went to bed, tired and all balled up mentally over the collection. What opportunities the people at Chañarcillo had to get real specimens that had always been valuable, and how the opportunity was completely muffed. They could see the profit two inches in front of their noses and no farther, and the beauty of a specimen was more or less lost on them. And then to make a large and heavy collection without labels. Little did I know that night of a much greater shock that lay in wait for me on the following day.

A fair cup of coffee in bed and then I worked around until nine when I appeared at the office to finish the examination of the collection. I selected about twenty ore specimens, including several with rather good crystals of argentite and stephanite (?). The can of ruby silvers and one box of the wire silver and all the good wire silver from the other box. I called my friend Mr. Rosenblum in and told him I would offer \$50 for the collection I had selected. Of course I had priced the stuff ridiculously low since I knew the origin of the specimens I had selected, and the lack of labels was of no importance. He said I would have to discuss it with the Hochschild's lawyer, who was out of town at present.

After lunch I went to the hotel and found the catalog of the collection at the Fundacion Santa Maria waiting for me. This catalog was sent me by Sr. Joaquin Monge Mira, the professor of mineralogy at the Catholic University of Santiago. He had written it himself. I went out to the Fundacion to see the collection and see if there was any chance of getting some of the minerals for trading. On the way I read the catalog. The collection was purchased from the family of Don Gustavo Gabler, for 40,000 pesos. It consisted of 2,463 specimens of minerals and rocks. I arrived at the Fundacion and found it to be a beautiful place, well laid out, spacious grounds, fine buildings and beautiful gardens. There was much building going on and the entire place had the air of money. I even-

tually found the collection and the assistant keeper or someone high up in the place. He said that there wasn't any way I could get specimens out of it, so I started to look it over. The collection deserves a thorough description. It was displayed in fine cases but poorly lighted. The specimens weren't crowded as a rule and there were no large specimens, all under 6 x 8 inches. That is all that can be said good about the collection, as the specimens were not museum specimens in the sense of being beautiful and spectacular.

None of the specimens were labeled. Each one carried a number only, and it was a case of looking through the catalog until you found the number for the specimens. The collection is unique in being so displayed I think. A specimen of calcite might be followed by a specimen of native copper and this by a piece of coal and this by a piece of basalt lava. And it was next to impossible to find out what a particular specimen was. Fortunately I knew many of them and sailed along for a couple of cases. A specimen of garnet was exactly like a garnet I had seen in the collection at Hochschild's, and I tried and tried to find either the locality or the type of garnet it was but couldn't. Eventually I found it in the catalog, called a pseudomorph. I never did find the locality. I saw two specimens of the odd "sand crystals" after calcite or dolomite that come from Tarapaca and I looked for the locality and for the name they called them. One was eventually found to be called a calcite pseudomorph but the locality was given as Laguna Pocopocani and the other was labeled chalcopryite from Lomas Bayos.

I was fascinated with horror at the display of all the ruby silvers in an open case with no protection from the light. One was a good specimen of small crystals on asbestos. I wondered if it was from some other mine than Delores Tercera, at Chañarcillo, as all the asbestos-proustite I had seen had been from that mine. My horror when I found that it was labeled from Colquechaca, Bolivia. Proustite comes from there but not in that kind of crystal.

Having covered the collection in a short time as there wasn't much need to spend time on it, I started checking up on some of the specimens I knew. The native copper pseudomorphs after aragonite were labeled "native antimony" from New Brunswick, Canada. A furnace product, some sort of spiegel, was labeled "native lead" from Socavon de la Virgin, Bolivia. A cube of galena was labeled "native antimony" and the locality given as Carrizo, Vallenar. Nantokite was given as from the Mina Luis, Chuquicamata, and the single number from the Mina Nantoko, the only locality for nantokite, was given as a mineral "mixture of brochantite, chrysocolla and limonite." I have no idea how the errors came about but they might just as well have taken the numbers and placed them on the specimens and then taken the mineral names and placed them on one set of slips and all the localities on another set and then drawn out names and localities blindly and they wouldn't have been much worse off. It would be interesting to trace back the actual source of the hopeless mess. The collection as it stands is of little value. It would take a lot of hard and heartbreaking labor on the part of a good mineralogist that knew his Chilean minerals and localities to work out a little system. Many specimens would always have to be highly uncertain, but at least fifty percent would be distinctive enough to classify and identify with a fair degree of certainty.

Thursday, and the last day in Chile, at least for a while. I worked around and presented myself at Hochschild's at ten to get a reply on the collection. Rosenblum said that the lawyer had felt that they had a great thing in the collection and had wept at my offer, but he had advised him to accept it. He, Rosenblum, was very cagy. He had no idea of the value of mineral specimens but knew that if I had offered fifty dollars I could be pushed up a little more. He said that if I would offer sixty dollars I could have the collection I had picked out. I grumbled and cried but agreed to pay the sixty and hurried out to get a shipping can and sixty dollars in bills. The Grace Co. wouldn't cash my traveller's check and I just went

around in circles. I finally ended up with the sub-manager or some such person, who after a long time of insisting that they simply couldn't cash it without having all the office personnel put in jail, offered to guarantee payment which he did and so I returned to the office after getting a can from Hucke's own store. (The cans got higher and higher in price as I approached the source. Nothing in Chuqui, 1.50 in Anto, 3.00 in Copiapo and 8.00 in the home place, Valpo.)

I packed the specimens other than crystals and then went for lunch. I took Cater to the hotel and we had another long visit. After he left I packed and got my stuff to the boat. The usual argument over the cost, and I reduced it from 25 pesos to 20 pesos, and if I had had time I would have brought it down to 15. I was so tired of such dickering I looked forward to a rest. An odd thing, when I was talking with Rosenblum he used the term auripigmentum. I asked him where he had learned that name for orpiment and he said he had learned it when he bought arsenic ores from dealers in Asia. I supposed that the term was from Pliny.

Back to the boat I lay down and slept until dinner time. I found Hevey and got the \$60 and paid him and then went down to dinner.

A lot of old faces among the help, and I ran into my old steward at the door and got a single table with him again. It seemed good and he did his best as usual. After dinner a few turns about the deck and then to bed but not to sleep. We were supposed to sail at 5:00, then 7:00 and later 10:00 and finally sailed a little after midnight. I watched the lights of the city for a while and then lay down.

This concludes Mark Chance Bandy's diary of a mineral collecting trip through Chile 1935. On November 8, he boarded the ship that took him the 5500 miles to New York City. He arrived in New York on November 27, 1935. Although Bandy initially questioned the success of the trip, it did result in some excellent specimens for Harvard and the Smithsonian. Perhaps more importantly, however, Mark Bandy went on to earn his doctorate at Harvard studying the minerals that he collected on this expedition. These include six new mineral species, including bandylite, named in his honor by two of his Harvard professors, Palache and Foshag (*American Mineralogist*, Vol. 23, 1938), a most fitting honor considering the valuable contributions that Mark Chance Bandy made to the mineralogy of Chile. ☒

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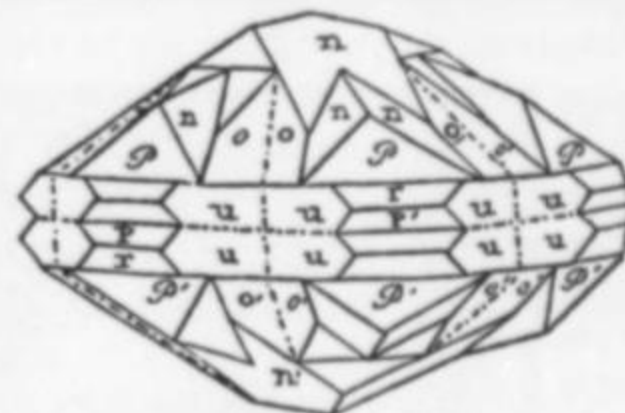


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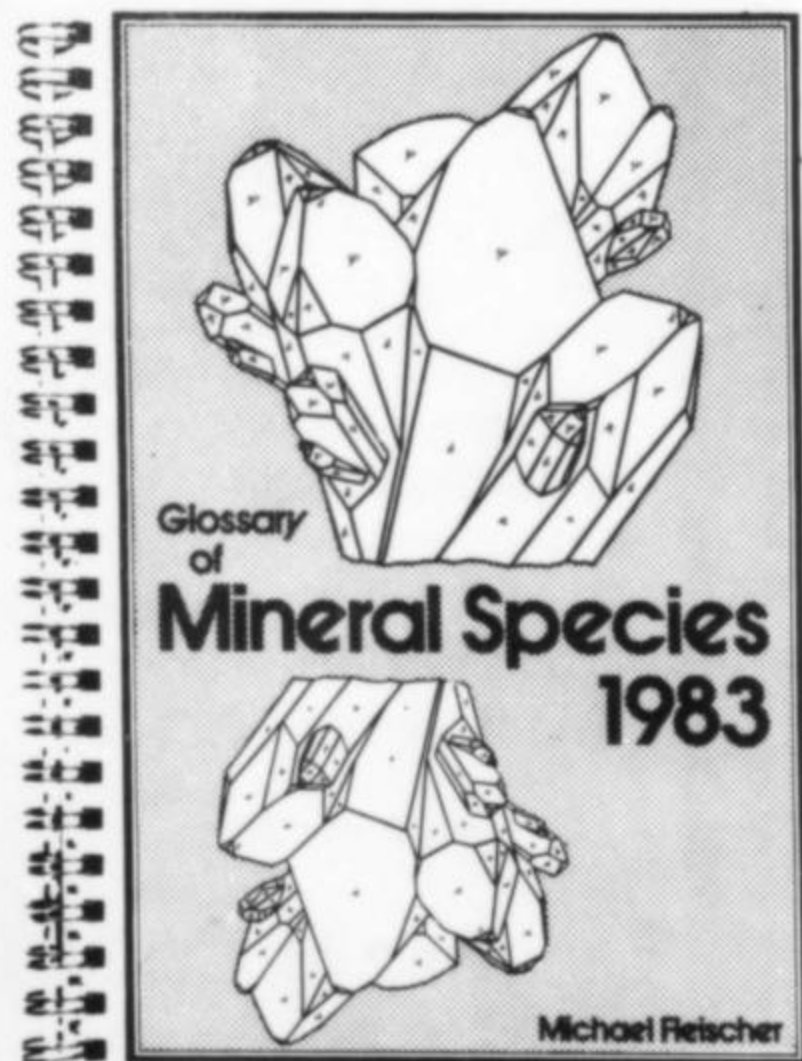
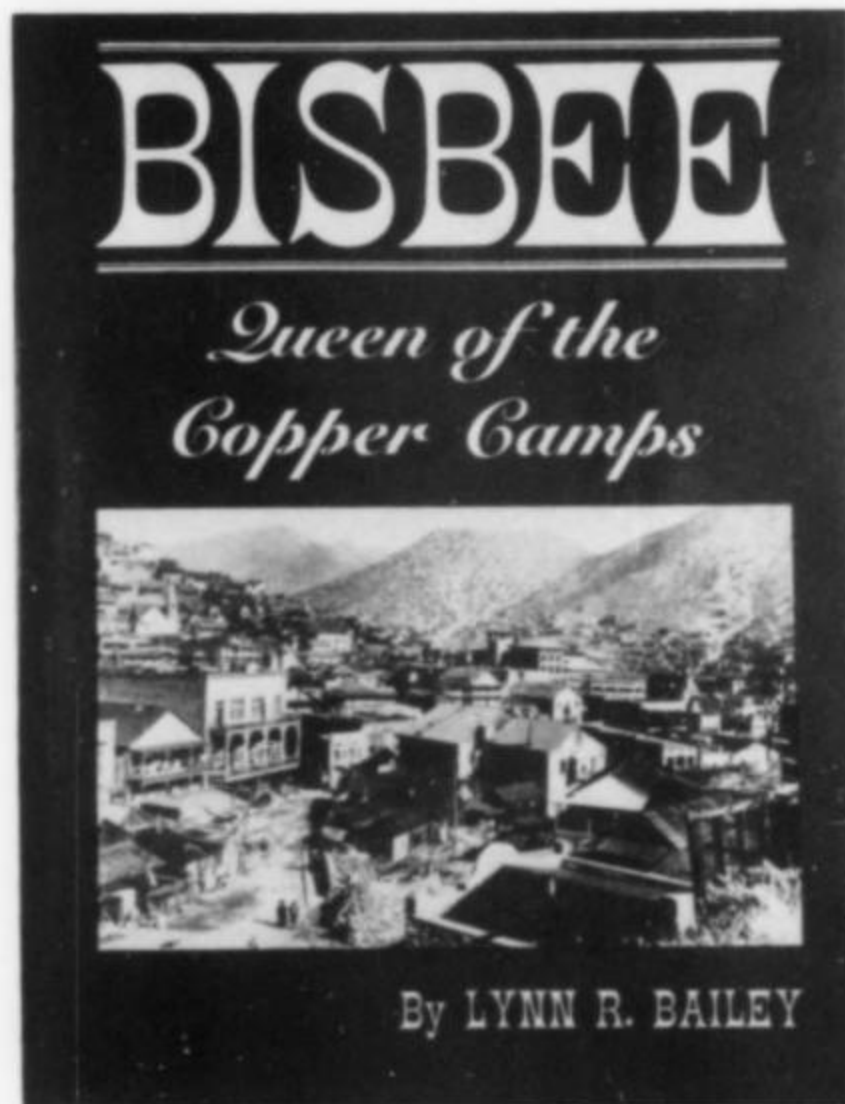
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The mineral and gem collections of the U.S. National Museum of Natural History (Smithsonian Institution) have continued to grow since James Smithson first donated his cabinet of minerals to the American people in 1826. The National Collection suffered a major setback in 1865 when it was destroyed by fire, but it has since then been rebuilt into one of the largest and finest institutional collections in the world.

Specimens are acquired in a variety of ways. Rare species and other specimens of research interest are gained through field collecting, donations from private collectors, exchanges with other collectors and institutions, transfers from other federal agencies (particularly the U.S. Geological Survey), and by direct purchase. Display quality specimens are acquired primarily through donations from and exchanges with private collectors and dealers, and through purchase.

The Smithsonian, like a number of other museums, has a limited but significant budget for the purchase of specimens. In recent years this budget has averaged about \$70,000 per year, obtained entirely from private funds and donations. (No federal appropriations are available.) Part of this is interest from an invested fund, the principal of which we do not touch. Some of the remainder is a direct annual grant intended to be spent entirely during the year in which it is received, presuming enough specimens appropriate for the collections can be found. It has never been difficult to find more than we can afford.

Since 1979 the growth rate of the collections has averaged about 1200 specimens per year, not counting the acquisition of major collections. The David H. Wilson collection, bequeathed to the museum in 1979, contained more than 9,000 specimens and required nearly five years to process. Consequently the National Collection has grown by more than 15,000 specimens over the last five years.

Only about 1 percent of total acquisitions can be classed as exhibit quality. Although the fine display pieces cause the most excitement and enjoyment among the public, and consume most of our purchase funds, it is the research material which demands the lion's share of curatorial effort. The museum plays an important role in mineralogical research by serving as a major resource for scientists needing natural specimens for study. In 1982, for example, we shipped 96 parcels containing a total of 427 samples to researchers worldwide. Most shipments went to American laboratories, but others went to Japan, Australia, West Germany, Zaire, France, Canada, Austria, Turkey and the Soviet Union.

Building the species collection is a major concern, and our want-list has now been computerized. With the plethora of new species being introduced these days, it has become increasingly difficult to keep up, despite all our efforts. And, due to competition, a growing percentage of our rare species acquisitions must be purchased. In the Good Old Days the active group of mineralogists comprised a small fraternity, each member well known to the others, and all

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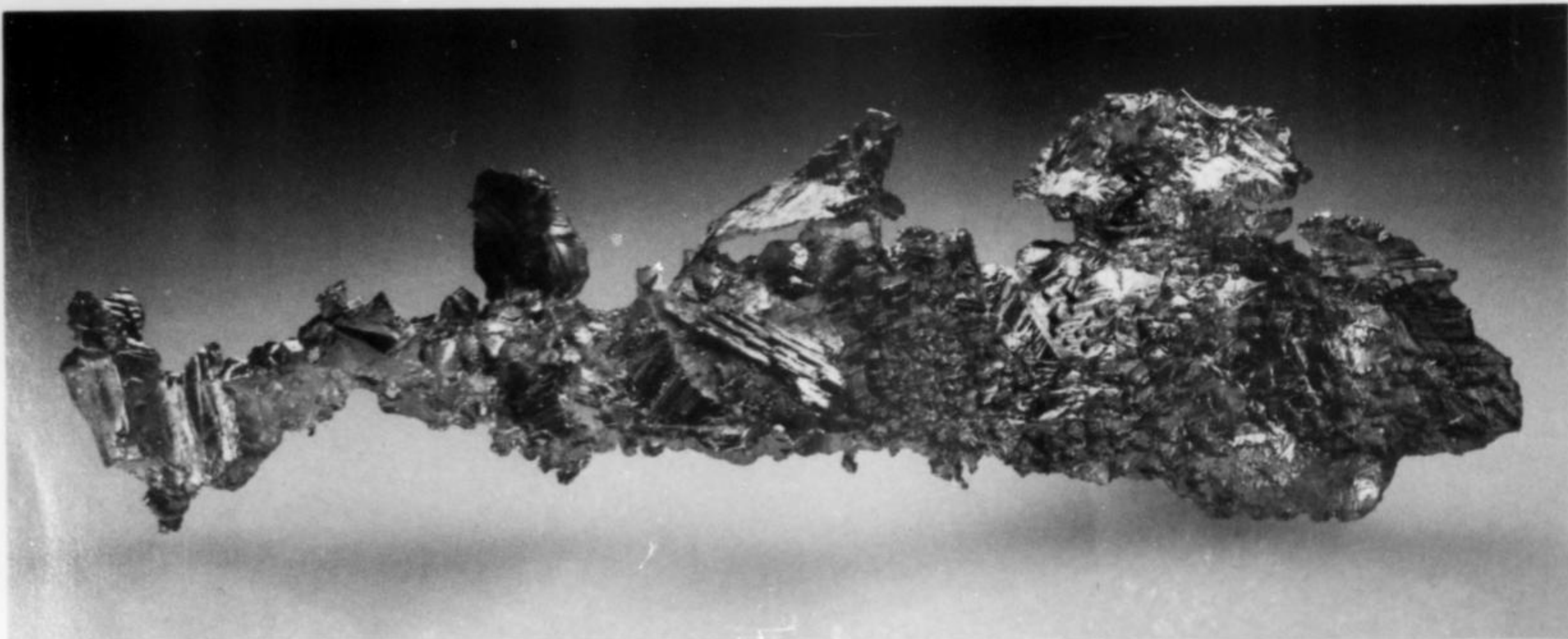


Figure 1. Gold; Morro Velho mine, Nova Lima, Minas Gerais, Brazil (#148841); 12 cm, 71.8 grams. This beautiful plate of crystals and crystal molds has been broken or etched from matrix, as there are no associations. (See the article on this famous locality in vol. 4 of the *Mineralogical Record*, p. 224-229.)

Figure 2. Veszelyite; Black Pine mine, Philipsburg, Montana (#148368); crystal length is 3 cm. It is rare indeed that a mineral known for over a century as unattractive material should turn up in such spectacular crystals. (See the note on the occurrence in vol. 12, p. 183).



Figure 3. Vesuvianite; Jeffrey mine, Asbestos, Quebec, Canada (#R18764); the upper left crystal is 2.5 cm long. Unlike the vesuvianite from most other localities, Jeffrey mine crystals tend to be pale, transparent, and in some cases a lovely violet or violet-red in color. Gift of the Roebbling Fund.



Figure 4. Meta-autunite; near Malacacheta, Minas Gerais, Brazil (#148843); 5 cm long with a 3.5-cm crystal. This miniature is one of the most beautiful specimens of a radioactive mineral in the Smithsonian's collection. (See the note and another specimen photo in vol. 13, p. 181 and 183.)



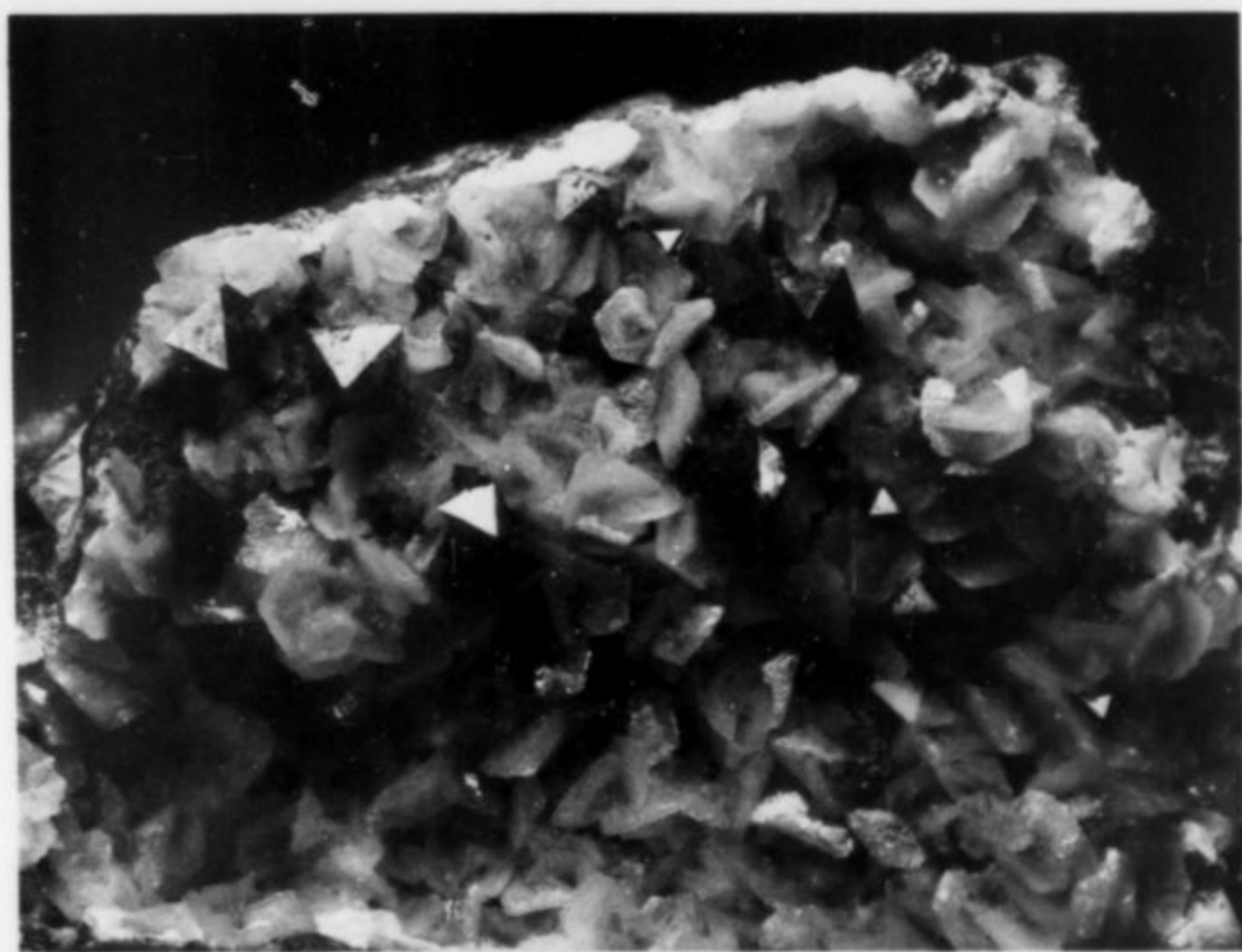


Figure 5. Cuprite; Kombat mine, Otavi, Namibia (#C6989); 7 cm across. In addition to fine cuprite, the Kombat mine (not far from the famous Tsumeb mine) has produced what some people feel are the world's finest cerussite crystals. Such a cerussite was pictured on the Tucson show poster in 1983. Gift of the Canfield Fund.



Figure 7. Realgar; Cavnic, Crisana-Maramures, Romania (#C6990); shown a little less than actual size. Formerly known as Kapnik or Kapnikbanya, the mines in this part of Romania have been producing specimens for centuries. This piece is unlike other examples in the National Collection. Its fresh appearance suggests that it has been recently collected. Gift of the Canfield Fund.



Figure 6. Powellite; Nasik district, India (#149313); the crystal is 4 cm. Stunning is the only word for this sharp, lustrous crystal perched on stilbite crystals. (See the three articles in vol. 13, p. 303-311.)

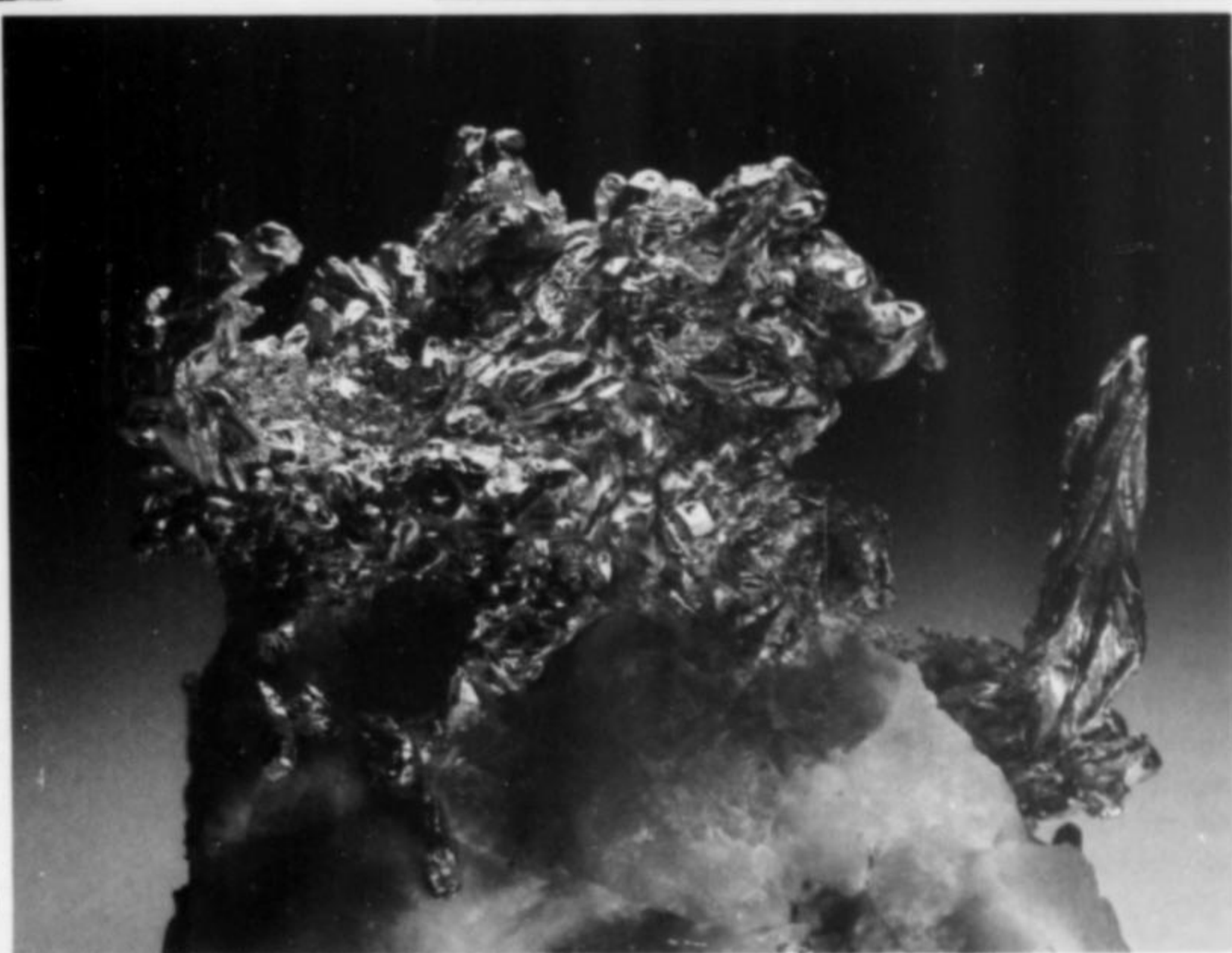


Figure 8. Gold; California (#147542); 7 cm across. Of all the matrix gold specimens in the National Collection, this one is my favorite. The brilliant white quartz and the richly colored, well formed gold are striking. Unfortunately the exact locality can only be guessed at.



Figure 9. Galena; Mogul mine, Tipperary, Ireland (#147196); the largest crystal is 2.5 cm. A new source for superb galena crystals was located in Ireland a few years ago by the late mineral dealer Richard Barstow. The crystals are sharp and brilliant, showing only the cube and octahedron. Associations include marcasite and deep yellow-brown sphalerite. Only a few specimens were found, and I know of no literature on the locality.

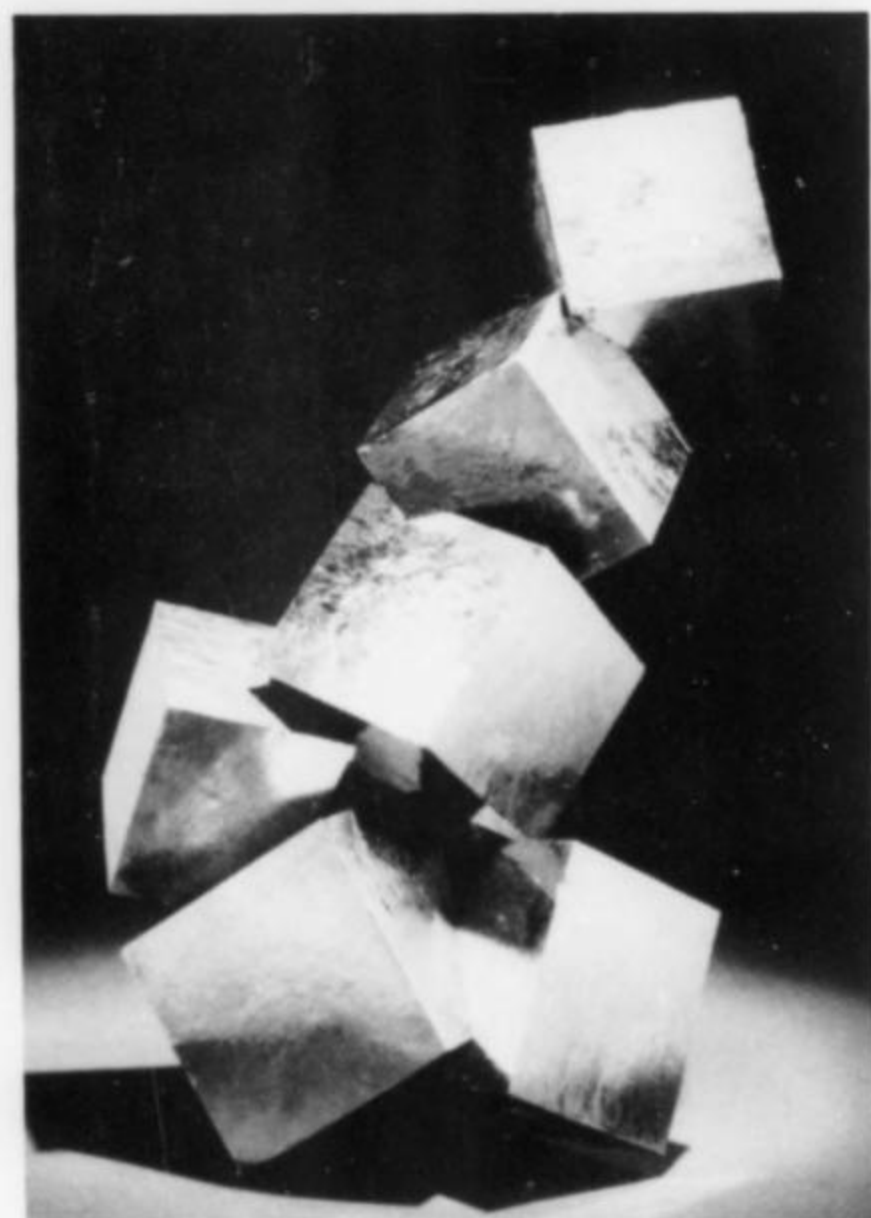


Figure 10. Pyrite; Soria (or Amejun), Logroño province, Spain (#R18657); the largest crystal is 5 cm on edge. This remarkable group of mirror-luster cubes stands a full 20 cm high. Pyrite from Logroño is a modern classic known to virtually every contemporary collector, but this exceptional group always inspires awe when shown to visitors. (See the note in vol. 7, p. 131-132 and 134.) Gift of the Roebling Fund.

Figure 12. Carrollite; Kambove, Shaba, Zaire (#147022 and #6866); silvery gray, the largest crystal is 1.5 cm. Carrollite is another species known for more than a hundred years and only recently found in large, attractive crystals. Visible on the large crystal at right are trisoctahedron faces, a form not listed for carrollite in *Dana's System of Mineralogy* (1944). Gift of the Canfield Fund (right).



Figure 11. Olivinite; Tsumeb mine, 35 level, W/20 stope, Namibia (#148315); dark malachite-green, 6 cm across. This superb specimen is unquestionably the finest olivinite in the Smithsonian collection. The photo does not do justice to the sharp, lustrous, slightly curved faces (See the note in vol. 12, p. 45.)

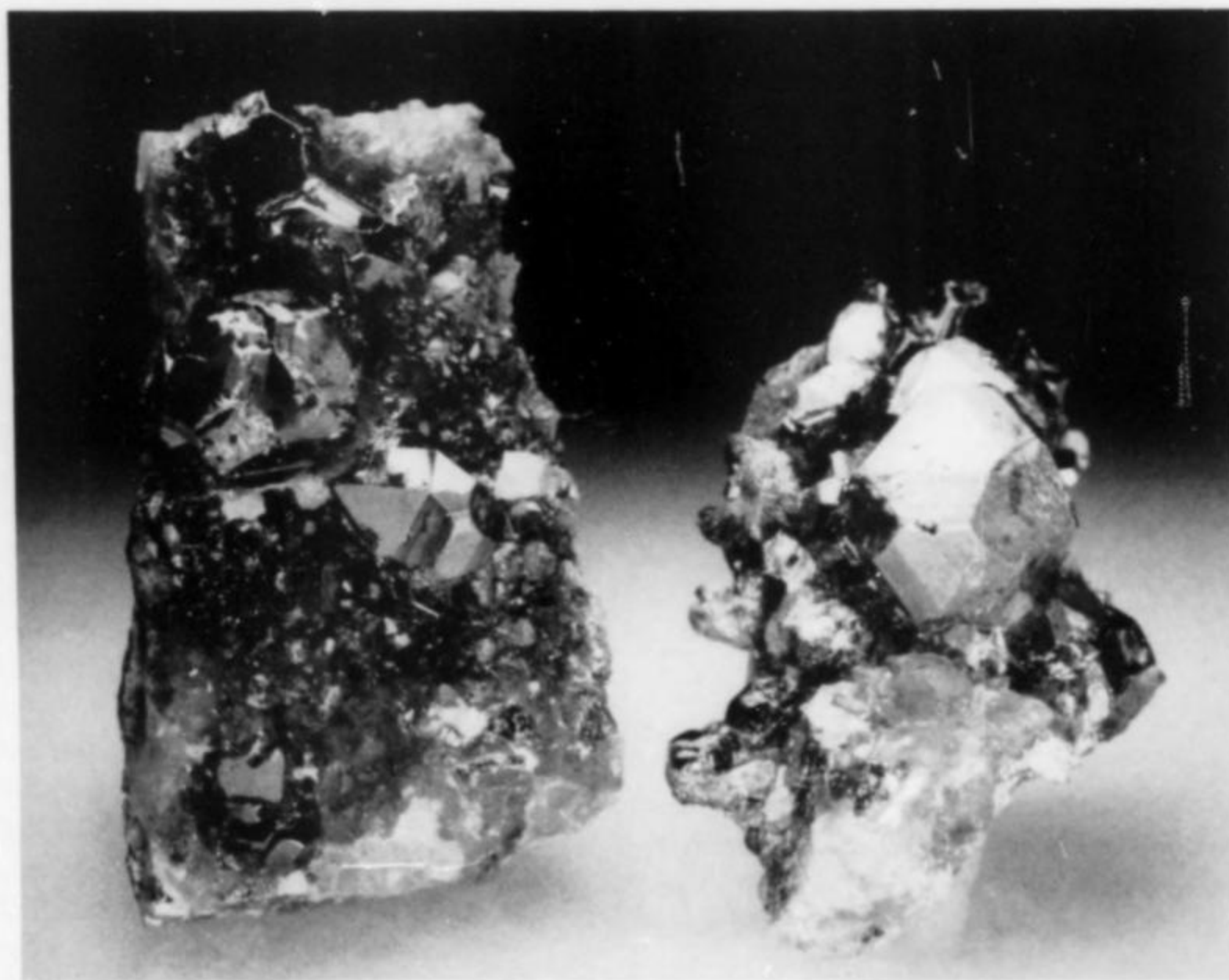
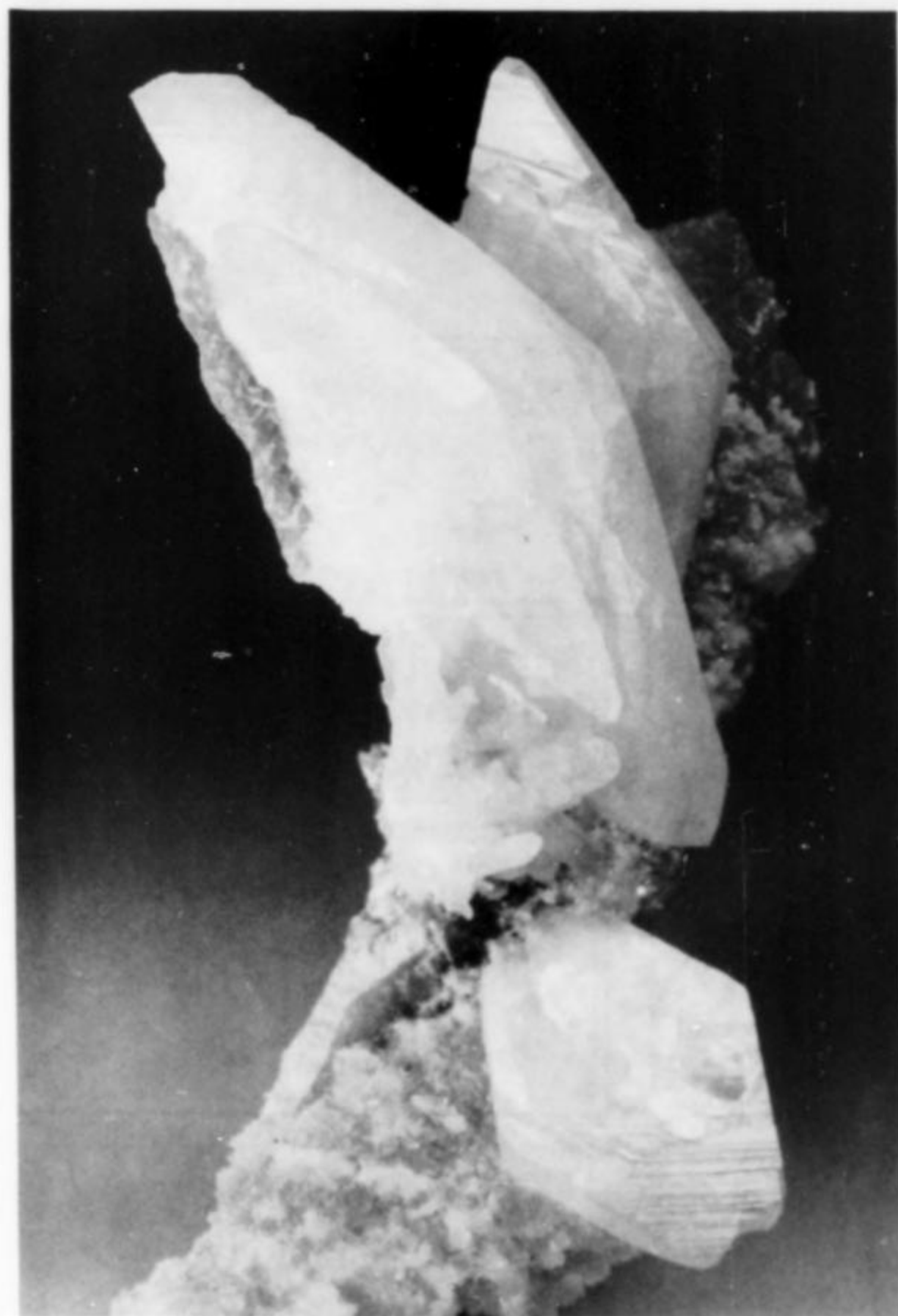


Figure 13. Creedite; Santa Eulalia district, Chihuahua, Mexico (#150223); pale lavender, 8 cm across. This is easily the largest and finest creedite in the Smithsonian collection. (See the note and other specimen photos in vol. 12, p. 389.)



Figure 14. Datolite; Luck Company quarry, Leesburg Plant, Loudoun County, Virginia (#148275); white; the largest crystal measures 6 cm. The traprock quarries of Virginia have produced some remarkable specimens over the last 30 years. But it took the skill and dedication of a collector from Baltimore, the late George Brewer, to extract this and other pieces which are certainly the finest ever found there. Brewer, who also found the two new species loudounite and goosecreekite, died in 1982 at the age of 33; he always managed to route his very best specimens to the Smithsonian.



well acquainted with the practice of depositing described material in major museums. Curators rarely had to pursue this material—it was deposited automatically. Today, with new species being described at a much greater rate, many from obscure institutions in remote countries, it is impossible for us to acquire a sample of everything, even with the help of dealers.

Although we do find ourselves in competition with mineral dealers for rare species, this is both a plus and a minus. In many

Figure 15. Anglesite; Touissit mine, Morocco (#148267); cream-colored with transparent, yellow-orange cores; each of the major crystals measures 15 cm in length. The cream-colored coating of drusy crystals is cerussite.

cases dealers manage to obtain things that we are otherwise unable to locate, and we can then acquire them by purchase. In the long run I would have to say that we have probably benefited more from

the dealers being involved than we have lost. They seem to me to be providing an important service to the museums of the world. Perhaps our biggest lament is over the difficulty in obtaining samples of new species from the Soviet Union. Mineralogists in the Soviet Union have been generating a disproportionately large share of the new mineral species, and yet are not taking steps to see that samples are deposited with major museums worldwide. In fact, of all the species on our want-list, more than half are from the Soviet Union.

Over the years the National Collection has been improved and refined considerably through exchanges. These have included fine display-quality specimens as well as research material, but it should be noted that our policy requires the exchange of like for like quality. Fortunately it is rare that someone will expect exhibit quality in exchange for research quality. Most of our exchanges are undertaken with dealers, though many trades are made with private collectors and other institutions.

What the public sees, of course, are the approximately 2,300 specimens on public exhibit in the Mineral and Gem Halls. These account for only a very small percentage of the total holdings. The current displays are aging and we are eager to do a major renovation in order to incorporate all of the superb display pieces acquired

over the 25 years since the halls were last rebuilt. But no firm plans are yet in hand, and we have replaced only a few of the older specimens with new acquisitions. New pieces on display include an elbaite affectionately known as "the Jolly Green Giant" from Newry, Maine (pictured in the *Mineralogical Record*, vol. 6, p. 22); a green beryl from the Hiddenite and Emerald mine near Stony Point, North Carolina (shown on the cover of vol. 6, no. 3); a blue beryl group from Pakistan (pictured in vol. 11, p. 383); a large variscite nodule from Fairfield, Utah; a huge specimen of bournonite from the Herodsfoot mine, Cornwall; an exceptional Ilfeld manganite; two azurite specimens from Tsumeb; a very large and fine azurite from Morenci, Arizona; an extraordinary group of pale green, platy beryl crystals from the Conselheira Pena district in Brazil; and a very large and fine group of epidote crystals from Untersulzbachtal, Austria.

The accompanying photos show a selection of the more photogenic acquisitions made recently. Three of them were purchased at the Munich Show, one at the Tucson Show, two by mail exchange with the collectors who found them, and the rest from dealers who brought the items directly to the Smithsonian. All of the specimens were purchased with private funds or obtained by exchange. This is only a sampling of the many excellent display-quality specimens added to the National Collection in recent years. ☒

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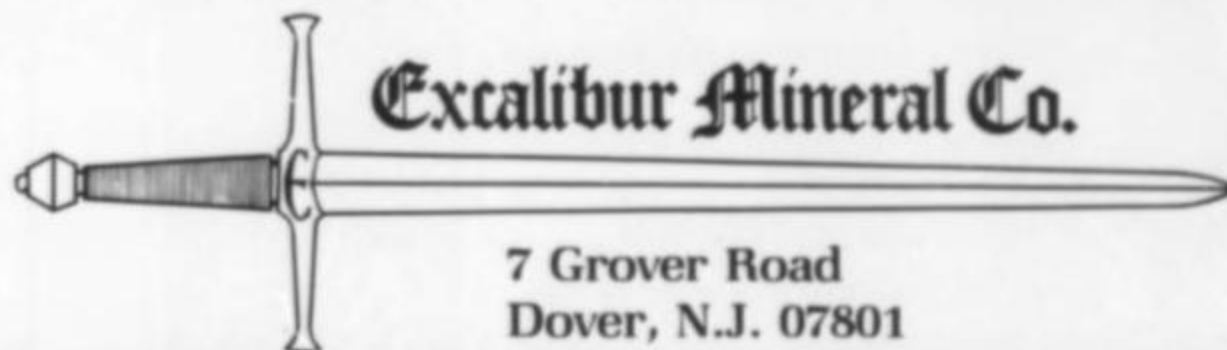
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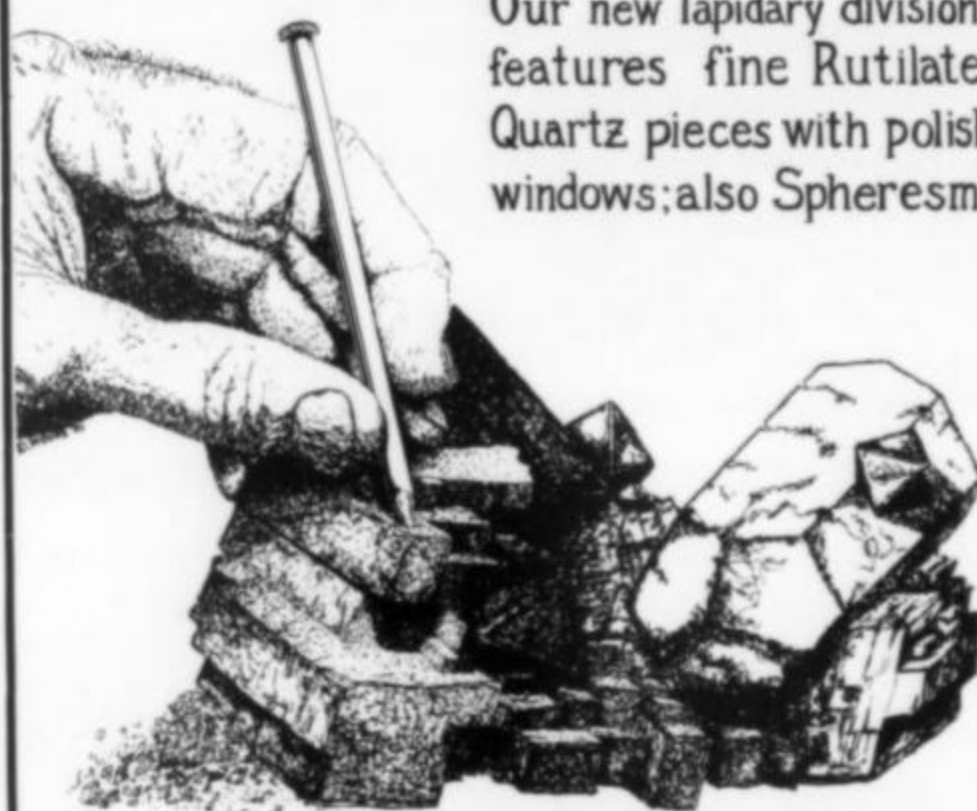
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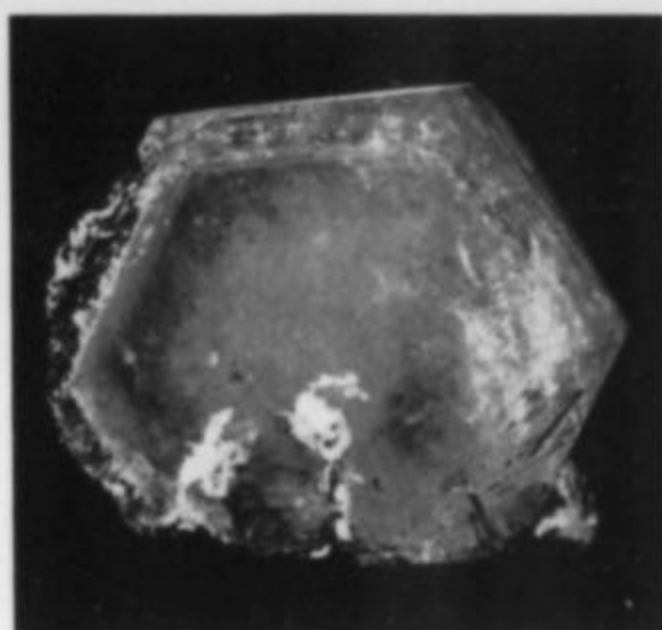
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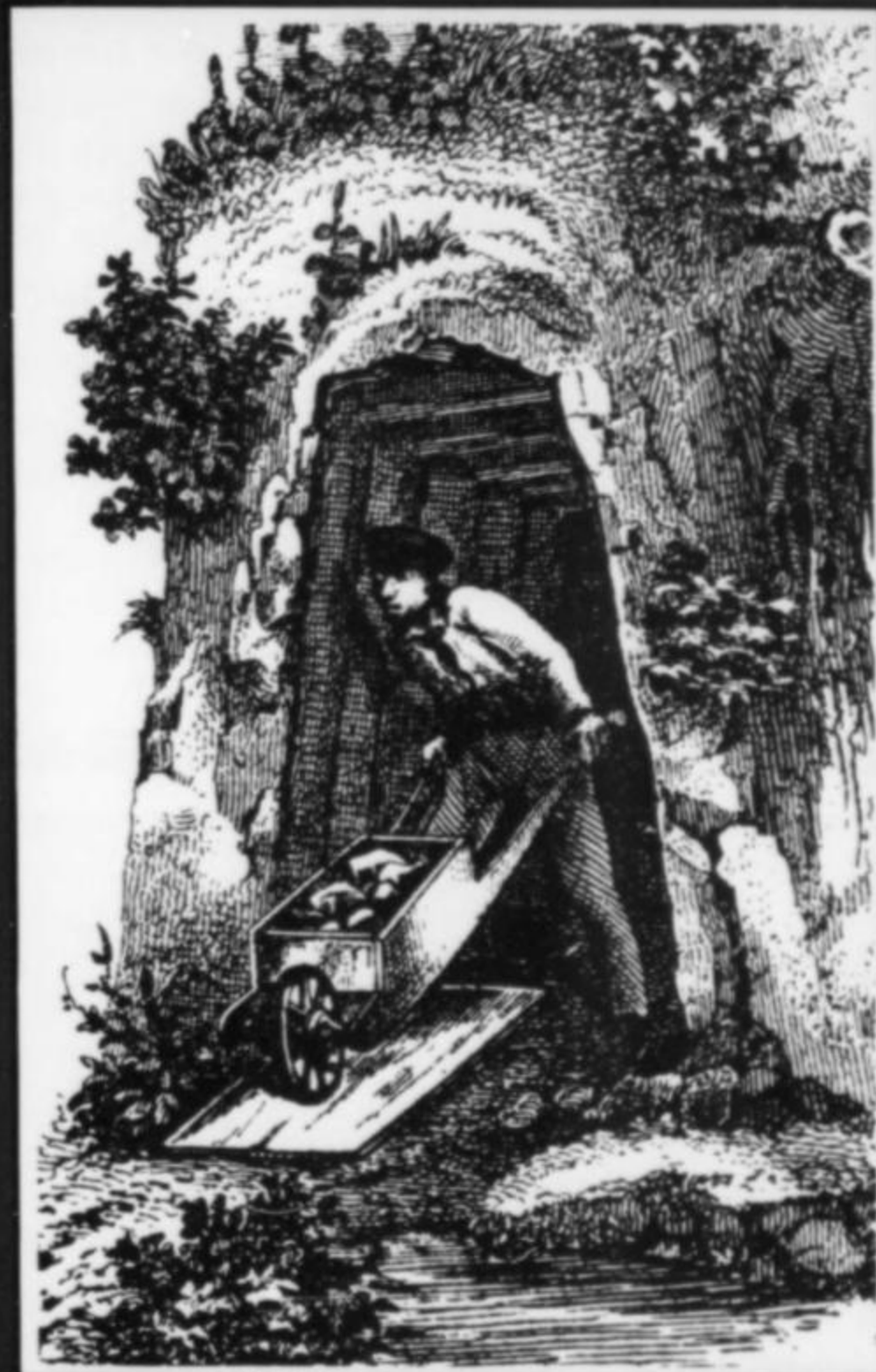
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What's New in Minerals?

TUCSON SHOW 1984

One reason why the Tucson Show has always been so popular* is the weather. People come from all over the world to see the minerals, but southern Arizona and a small part of Florida are the warmest places in the United States in February . . . that doesn't hurt attendance at all. This year the Forces of Nature were benevolent indeed, providing the finest stretch of weather the show has enjoyed in years. There was hardly a cloud in the sky during the entire two weeks culminating with the show, not a drop of rain, not too cool and not too hot: perfect. Not a few people hesitated when boarding their flights for home.

I spoke with many dealers during those two weeks, and asked them how their sales were going. In general, if the dealer had high quality material, he was doing very well; if he had low quality material, he was wondering where all the buyers had gone. The handwriting is on the wall for mineral dealers: it's getting harder and harder to sell the low-end material. Of course this is really nothing new, it's been a trend for years. And I can't say whether it will be good or bad for the science and the hobby in the long run. But the trend seemed to be firming up noticeably at this show.

There were few splashy new finds available this year, in contrast to some previous years. And the volume of specimens from most new discoveries was relatively low. An extraordinary batch of new fluorite specimens from the famous fluorite locality of Naica, Mexico, was for sale from *Roberts Minerals*. There were about 30 top pieces in the lot, and perhaps another 20 or 30 pieces that were quite good as well. The crystals are large, up to 5 cm, in the overall shape of octahedrons but with each face actually composed of tiny steps made up of other forms. This is a habit well known at Naica, but the crystal size, the pleasant transparency, and the color combination of green centers fading into colorless outer zones makes these the best seen in some time. The prices were not exactly cheap, but the quality is there, and buyers recognized it; the lot was almost entirely sold out at the show.

Another interesting and very attractive lot of specimens was provided by Herb Obodda and Dave Wilber: tourmalines from Stak Nala, Gilgit-Skardu Road, Haramosh Mountains, Baltistan, Pakistan. These recently found crystals range from 2.5 to 10 cm in length, commonly with crystalline quartz and feldspar matrix, and are multi-colored. Beginning at each end, for the doubly terminated crystals, there is a thin pink zone, followed inward by a pale green zone, and finally by a blackish green central zone. Many of the specimens do have doubly terminated crystals, and they make fine display items. (See *Kristalle* ad, center-left.)

Chris Wright of *Wright's Rock Shop* had some large plates of new amethyst from Las Vigas, Veracruz, Mexico; one was pictured on the cover of the previous issue. He also had some dark red

crystals of dravite, very well formed and esthetically grouped, from Minas Gerais, Brazil; these he had obtained from Carlos Barbosa, a Brazilian dealer who comes to the U.S. once a year, and always seems to arrive at the Desert Inn before everyone else. Chris also had some interesting specimens of diopside microcrystals in clear quartz crystals to 8 cm, from Zaire.

Joe Kielbaso and Stan Esbenschade brought quite a few flats of fine black tourmaline from Mina Guadalupe, Santa Cruz, Sonora, Mexico. The crystals occur in large groups of fuzzy sheaves to about 4 cm in length and many centimeters across. About 75 good specimens were recovered, and many lesser pieces, including numerous cabinet-size specimens. The tourmaline surfaces display iridescence, but care in cleaning must be exercised so that the thin surface is not damaged and the effect lost.

Don Pearce brought his usual selection of fine Michigan copper country minerals, including many large and well crystallized silvers and coppers. One surprise was a number of specimens of *fluorescent* datolite nodules. Such nodules, sliced and polished to show colors and patterns, are a favorite with collectors in Michigan. But, as far as I can tell, they have not previously been reported as fluorescent (I checked *Mineralogy of Michigan* (1976) by Heinrich, and *Collector's Book of Fluorescent Minerals* (1983), the exhaustive study by Manuel Robbins). (Knowing *Mineralogical Record* readers as I do, I suspect this comment will set off a massive literature search to see if my statement is really correct. That's okay; I'm always fascinated to see what people come up with!)

John Mediz (*Copper City Rock Shop*, Globe, Arizona) made a strike at the nearby Apache mine just before the show, and as a result the finest vanadinite specimens ever found there turned up at the show. The crystals are large (to more than 1 cm) and have a yellow-orange cat's-eye effect alternating with the more solid, bright red portions of the crystals.

Don Knowles (*Golden Minerals*) brought to Tucson a selection from a recent find of amethyst crystals on milky quartz. Hundreds of kilograms of specimens were found at Little Badger Creek, Fremont County, Colorado, including one piece weighing 45 kg and now owned by the Denver Museum of Natural History. Fine miniatures and small cabinet specimens were recovered as well.

Mike Madsen, in the wholesale room at the main show, had many flats of azurite from La Sal, Utah. These were first discovered in 1981, when a portion of the vein was mined into the hillside until it pinched out. (See this column in vol. 12, p. 387.) Subsequent investigation located the outcrop of the vein on the other side of the hill, and this has now been mined inward to the same pinch-out, the vein now being completely gone from both sides.

Bart Cannon's room seemed nearly filled with specimens from a recent find at the Bessemer iron claim, Green Mountain, near North Bend, King County, Washington. These consist of quartz-hematite pseudomorphs after epidote, large crystals in groups to 15 cm or more, coated with a druse of transparent acicular quartz crystals.

Victor Yount managed to produce more new things from Morocco, including pale blue dundasite and pale green smithsonite from the Touissit mine, blue-green botryoidal aragonite, white endlicheite, and truly first-class crystals of plumbian aragonite (*tarnowitzite*) better than those from Tsumeb. He also had some interesting quartz-crystal geodes from the Eureka Valley south of Marakech, which contain acicular goethite crystals to 1.5 cm.

Bob Sullivan had a real block-buster of a specimen: a 3 x 10 x 13-cm crystal of hematite from the Brumado mine, Bahia, Brazil. This one must be seen to be believed. It has excellent luster, a variety of interesting crystal forms, smaller attached crystals for a nice esthetic touch, and virtually no damage. It's the finest hematite I have ever seen.

Sharon and Eugene Cisneros (*Mineralogical Research Co.*) car-

* Attendance this year: 17,089.



Figure 1. Black tourmaline sprays on matrix 15 cm wide, from Mina Guadalupe, Santa Cruz, Sonora, Mexico. Joe Kielbaso and Stan Esben-shade specimen.

Figure 3. Amethyst crystals on milky quartz from Little Badger Creek, Fremont County, Colorado. The specimen is about 6 cm across. Don Knowles specimen, now in the collection of Barbara Muntyan. Photo by Barbara Muntyan.

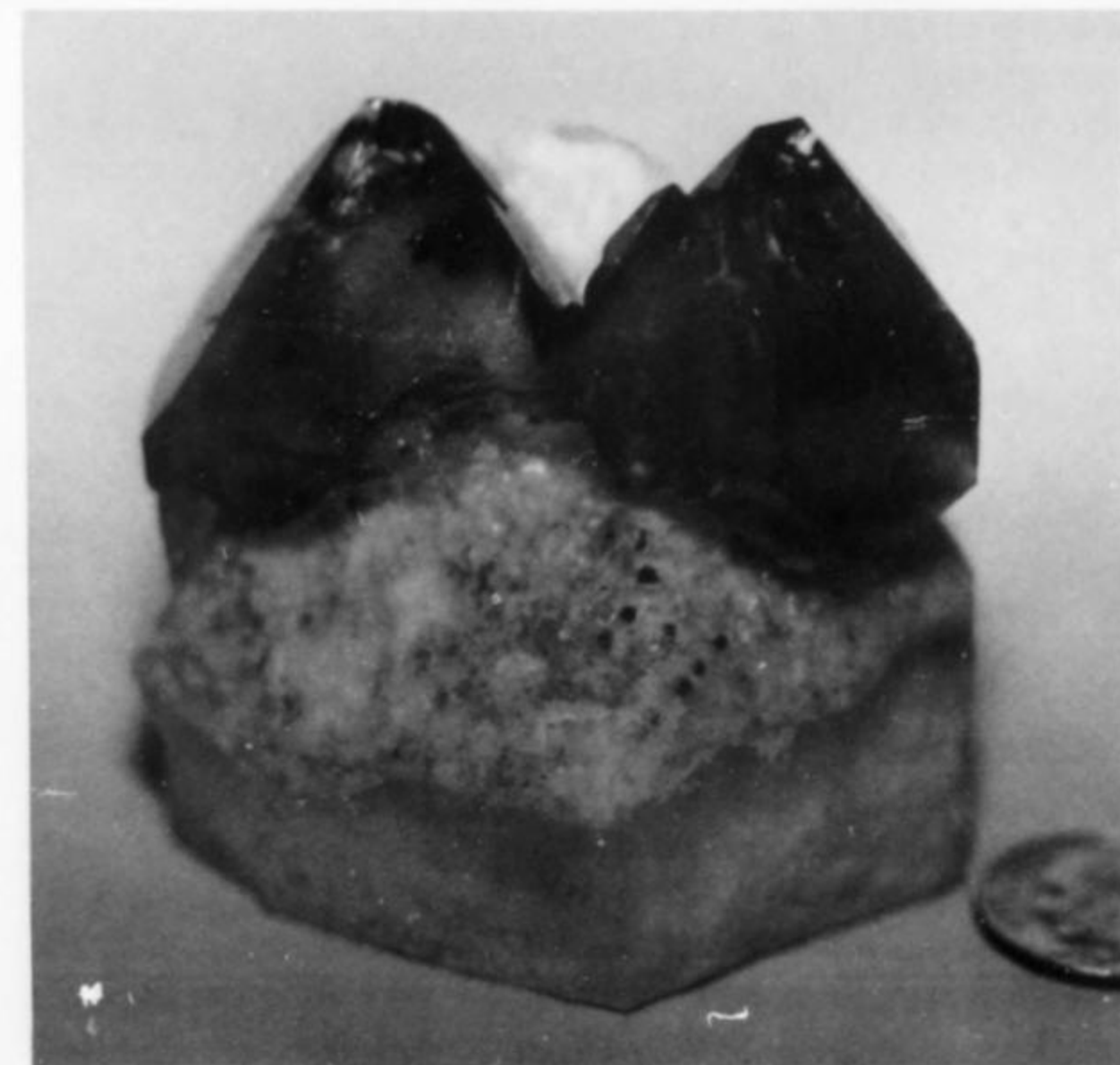


Figure 2. Amethyst crystals on milky quartz from Little Badger Creek, Fremont County, Colorado. The ruler is about 31 cm long; the piece weighs about 170 kg. Don Knowles specimen; George Robertson collection. Photo by Barbara Muntyan.

ried a wide range of rare species including a new batch from the Soviet Union, and also some fine Chinese azurites which look very similar to old Bisbee material. Readers may recall the big strike of fine epidote near Hawthorne, Nevada (vol. 13, p. 39) found in 1982 by the late Dick Jones. It turns out that Dick set aside a nice lot of those epidotes, which Sharon bought from Dick's son Roy just before the show this year.

Other dealers in rare species were to be found in the Desert Inn and various other locations; rumor was that an informal associa-

tion of such dealers is soon to be formed for the purpose of cooperative advertising.

The mineral chosen for this year's special competition by the Tucson Gem and Mineral Society was tourmaline, and the resulting collection of displays was truly exciting. People who own tourmalines seemed to get excited by the idea, because they certainly pulled them out of mothballs for this show. (Watch out for those tourmaline-eating moths!) Much of the credit for the exceptional selection of displays this year must go to Exhibits Chairmen Gene and Jackie Schleppe; the post is a difficult and frustrating one, but the results are critical to the show and the showgoers. The Smith-

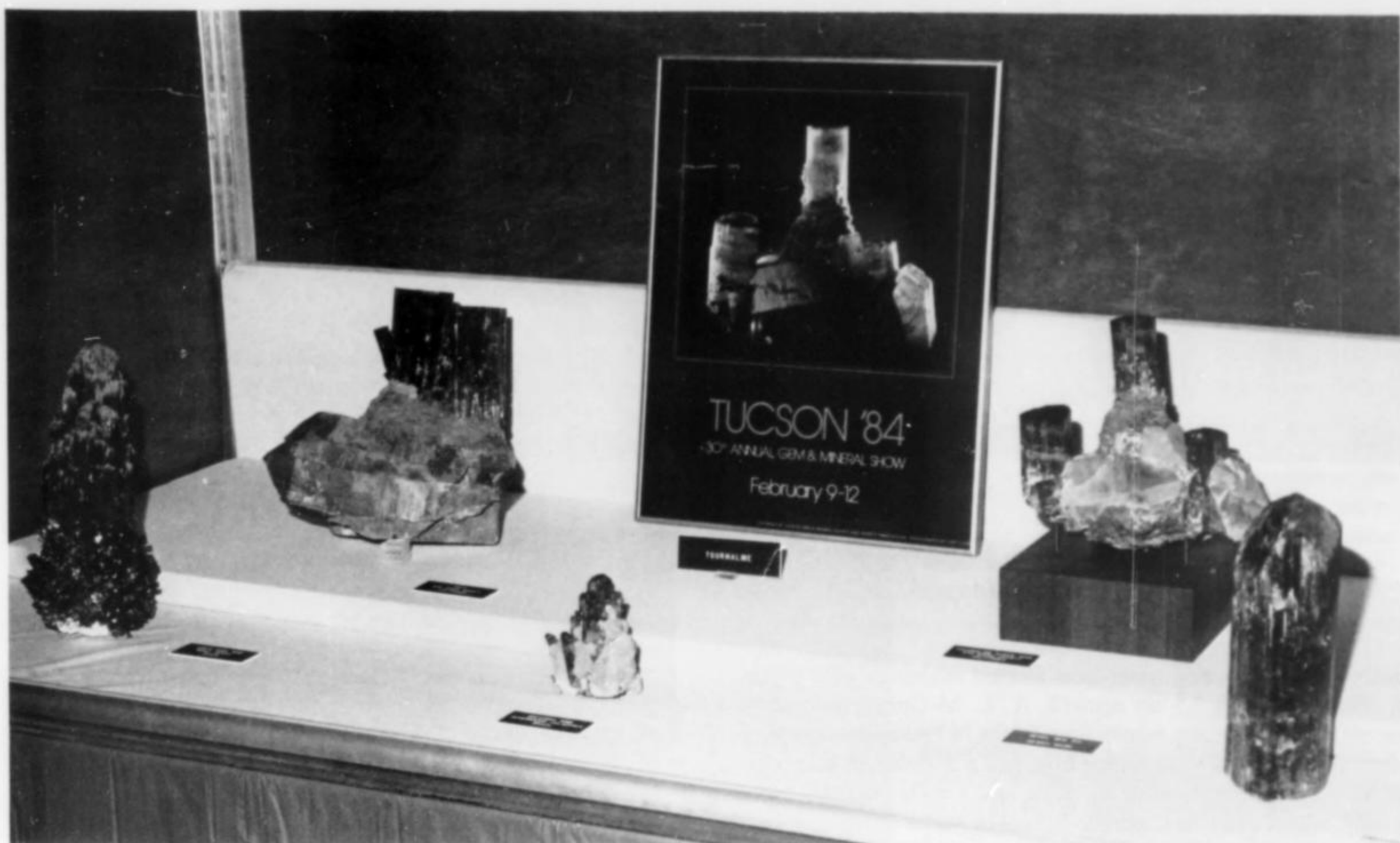


Figure 4. The Smithsonian's display of five tourmalines was impressive, and included three "named" specimens: "The Steamboat" (back left), "The Candelabra" (back right), and "The Jolly Green Giant" (front right). Also shown in the case is the Tucson Show's attractive poster for this year.

Figure 5. From the Smithsonian's case, the large green elbaite group from the Santa Rosa mine, Minas Gerais, Brazil.

sonian and Harvard each brought tourmaline displays, Ken and Betty Roberts' invitational case held Pala "blue-cap" tourmalines, John Barlow's two cases were entirely filled with superb tourmaline (including the famous postage stamp specimen), Herb Obodda's case held Pakistan and Afghanistan tourmalines, The American Museum of Natural History and the Los Angeles County Museum of Natural History brought tourmalines, the Sorbonne case held five magnificent tourmalines, and there were many many more fine tourmalines in the cases of Joan and Bryant Harris, Oceanside Imports, Steven Smale, Siber and Siber, Cal and Kerith Graeber, Wayne and Dona Leicht, Pala International (mostly fine tourmaline recently mined at the Himalaya mine) and Perkins Sams.

It was interesting to see the large number of "blue-cap" tourmalines from the Tourmaline Queen mine near Pala, California. These are crystals having a beautiful rose-pink color over most of their length, but a brilliant blue terminal layer several millimeters thick. They were all found in one pocket in 1972 (see vol. 8, p. 508), and several have been illustrated in the *Mineralogical Record* (see, for example, the "candelabra," vol. 9, p. 195, and also vol. 8, p. 509, and vol. 12, p. 184). The Roberts' case held 16, and I counted another 17 specimens in other cases for a total of 33! And most of those 33 were major museum pieces.

Other fine displays included the A. E. Seaman Museum's remarkable array of copper specimens, the Arizona-Sonora Desert Museum's case of Arizona minerals, Victor Yount's case of Moroc-



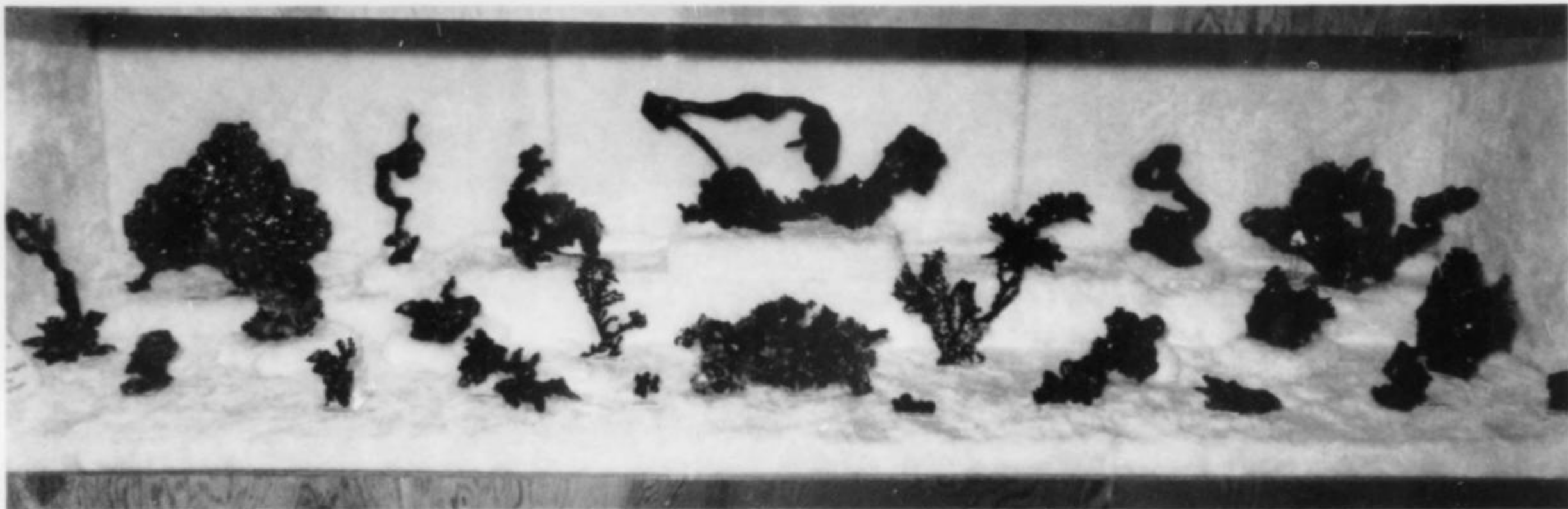


Figure 6. The case of Michigan copper specimens from the collection of Michigan Technological University, Houghton, Michigan. Photo by Carolyn Wilson.

can minerals (including water-clear faceted anglesites, pale yellow in color, exceeding 2.5 cm across!), A. L. McGuinness's case of minerals and three very rare miners' lamps (a Freiburger blende, a Harz Mountains all-brass parade frog, and a Bolivian oil lamp with heavy religious ornamentation), Rick and Cholly Rolater's case, Alain Carion's case, the Colorado School of Mines case of minerals and mining memorabilia, the National Museum of Canada's case of field-collected specimens, Luis Leite's case of Panasqueira, Portugal, specimens, and many others.

One of the highlights of the show was the pair of cases exhibited by Dr. Hu Cheng-zhu of the Geology Museum of Peking, People's Republic of China. Dr. Hu himself accompanied the display, on his first visit to the United States, and even *he* said the weather was a lot colder back home. The cases held specimens of velvet malachite



Figure 7. A rare, all-brass miner's lamp from the Harz Mountains in Germany; A. L. McGuinness collection. Photo by Carolyn Wilson.

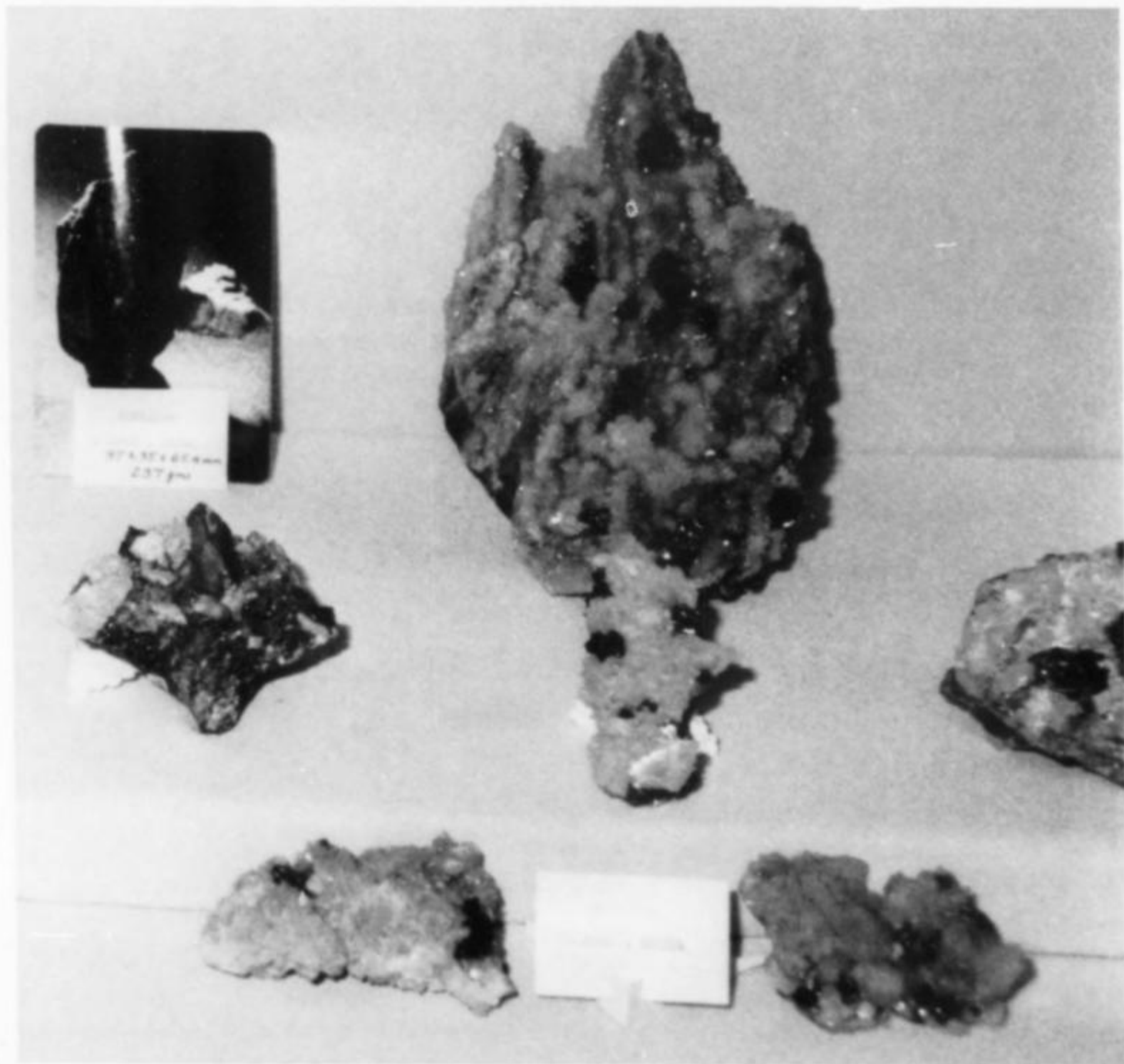


Figure 8. A portion of one of two cases exhibited by the Geology Museum in Peking, China, showing a number of cinnabars from Ghizhou Province. Photo by Carolyn Wilson.



Figure 9. Activity was high at the *Mineralogical Record's* silent auction table throughout the show. Here two bidders contemplate specimens, including (center) one of Bart Cannon's quartz-hematite pseudomorphs after epidote. Photo by Carolyn Wilson.

Figure 10. Luis Leite, the Saturday evening speaker at the *Mineralogical Record* program, put in his bid at the auction (\$3?). Kent England photo.

(Guangdong Province), large crystals of orpiment very similar to Peruvian specimens (Hunan Province), azurite roses to 5 cm (Guangdong), realgar crystals exceeding 1 cm, purple cube-dodecahedrons of fluorite to 3.5 cm (Hunan), very large wolframite crystals to 10 cm (Guangdong), stibnite crystal groups (Hunan), and no less than 13 specimens of twinned red cinnabar crystals. Most of the cinnabar crystals are on matrix and measure 1 to 2.5 cm in longest dimension; one superb piece consists of a drusy-quartz coated matrix about 20 cm tall with over a dozen fine twinned crystals of red cinnabar scattered over it.

The competition cases were remarkable for the large number of excellent thumbnail collections entered. Bill Moller won the coveted McDole trophy (best minerals in the show) and was forced to drink the honorary McDole shot of rum in order to claim his prize. Les Presmyk won the Lidstrom Trophy for best single specimen in the show (an Idaho vivianite). The Friends of Mineralogy presented their annual award for the best article in the *Mineralogical Record* to William Thomas and Ronald Gibbs for their article on the New Cornelia mine at Ajo, Arizona. And, of course, the stiffest competition this year (or at least the sweatiest) was at the *Mineralogical Record* Tennis Tournament, where Piero Gandiglio won the men's singles, Carolyn Manchester won the women's singles, Barbara Sheldon and Wayne Leicht won the mixed doubles, and Ken Roberts and Don Zowader won the men's doubles.

The *Mineralogical Record's* annual fund-raising auction went well this year, and the silent auction (begun for the first time in 1983) was expanded and refined. What happens is this: our staff of volunteers solicits donations from the various dealers at the show and in the motels. To these are added donations that come in from private collectors, museums, other magazines, etc. Approximately 50 items are reserved for the Saturday night voice-auction and the rest are made available to showgoers via the silent auction. Several rounds of the silent auction are scheduled each day; each round lasts 30 minutes, during which time people write their bids on cards laid out with each specimen. When the bell rings, the last bidders to write win. This year we had several special rounds (advertised in ad-



vance via fliers and posters): a round for the highest-value mineral specimens, a round for the best paper items such as rare books, posters and artwork, and several "kids' rounds" where 25-cent raises were accepted and only kids allowed to bid. (We had a great time with those kids' rounds, and several parents were pleased enough to thank us for coming up with the idea.) Next year we are thinking of adding a rare species/micromounts round. In any case, it all proceeded well, thanks to our volunteers and to an enthusiastic public.

Figure 11. Bill Moller (left) stands by apprehensively while John Patrick explains the old tradition of taking a drink from Ed McDole's original rum bottle. Kent England photo.



Figure 12. Auctioneer Gary Hansen and the evening's youngest winning bidder. Kent England photo.



Figure 13. Terry Huizing and Paul Desautels, on the Saturday night auction staff, admire a donation of pewter figurines from Rock Currier's "Inner City Series," details of which do not bear description in a polite magazine such as this. Kent England photo.

The Saturday night auction was one of the most enjoyable in years, thanks to a reduced number of items (the last year before we started the silent auction system we went through 200 lots on Saturday night!) allowing more time for fun. Gary Hansen, our auctioneer, made the most of it, taking time out occasionally for an impromptu roast of various well-known people in the audience.

Without a large staff there is no way we could manage such an operation. Don Olson did an excellent job in his first year of overseeing auction volunteers, who included Bill Basbagill, Ron Bentley, Julian Blakely, Ruth Blakely, James Carlon, John Carlon, Pat Carlon, Christi Cramer, Dave Crawford, Paul Desautels, Kent England, Darlene Hampel, Lance Hampel, Marie Huizing, Terry Huizing, Dick Hull, Ed Huskinson, Bob Jones, Tony Kampf, Gloria Ludlam, Sandy Ludlam, Walt Risch, Marti Scott, Marshall

Sussman, Jonathan Weiss, Bruce Wetteroth, Wendy White and Carolyn Wilson. Neil and Cami Prenn, and also some of the auction people from time to time, helped out Mary Lynn and Gale at the subscription table as well.

Of course, there would be no show and no auction were it not for the help and support of the Tucson Gem and Mineral Society. They have, since 1973, provided the hall for our Saturday night lecture and auction, and for many years have allowed us space for our subscription table. Our thanks to them, first and foremost, for making it all possible.

So there you have it, for those of you who missed it. Is it too early to start planning your trip to Tucson for next year? Certainly not. See you there!

W.E.W.

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I know all the readers of the *Mineralogical Record* will join me in saying thanks to these generous people who help to keep our magazine going year after year. W.E.W.

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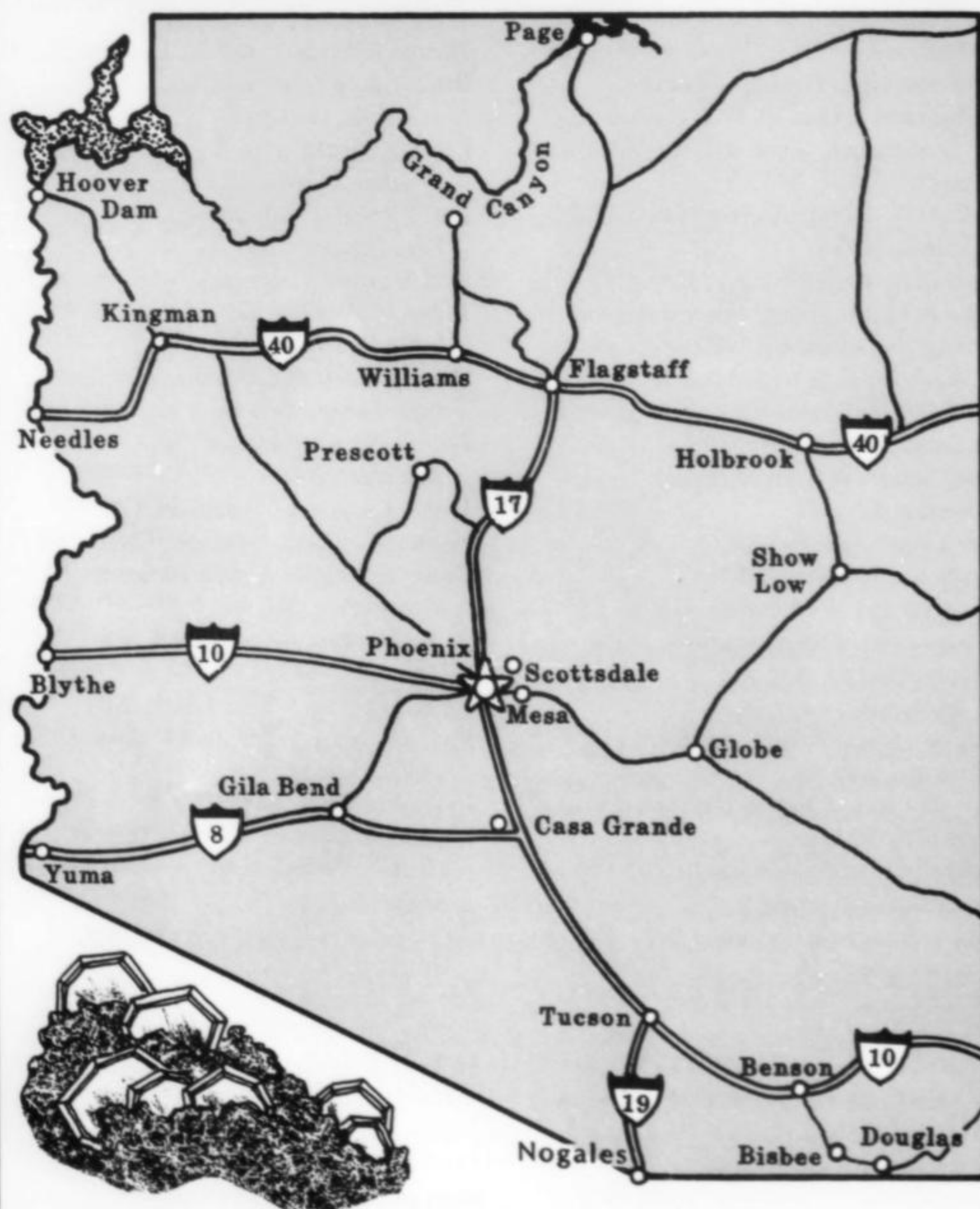
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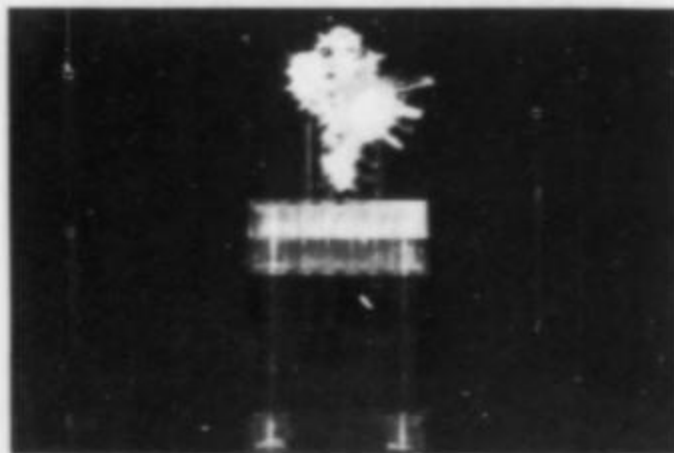
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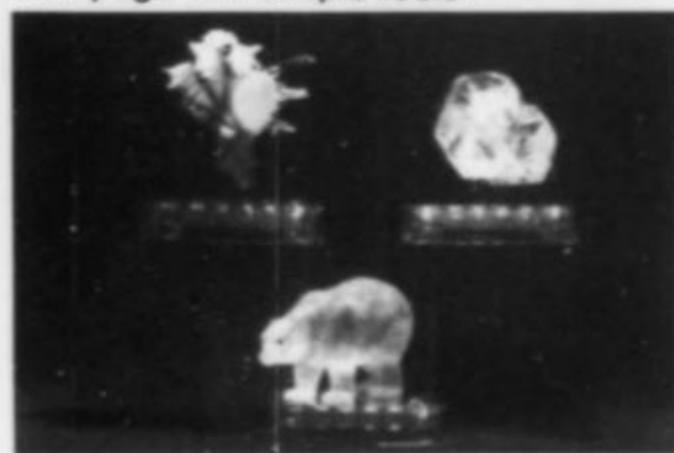
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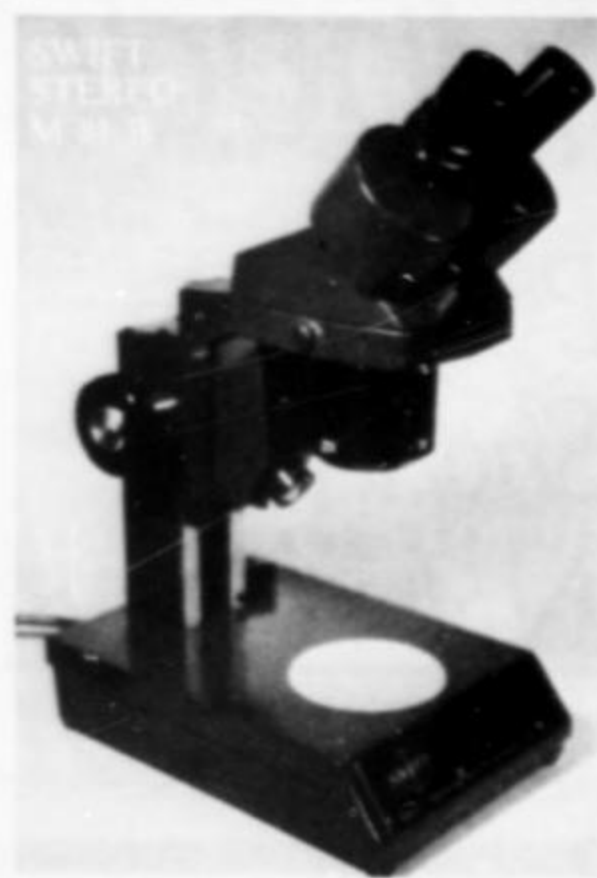
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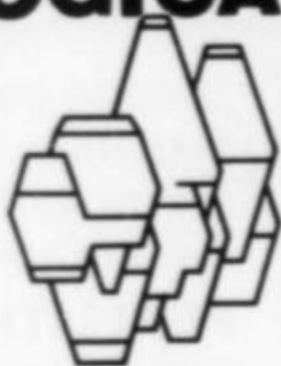
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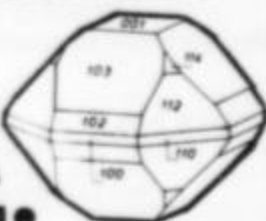
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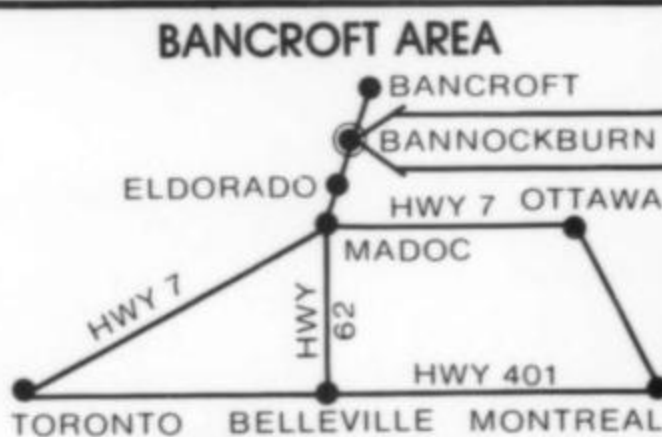
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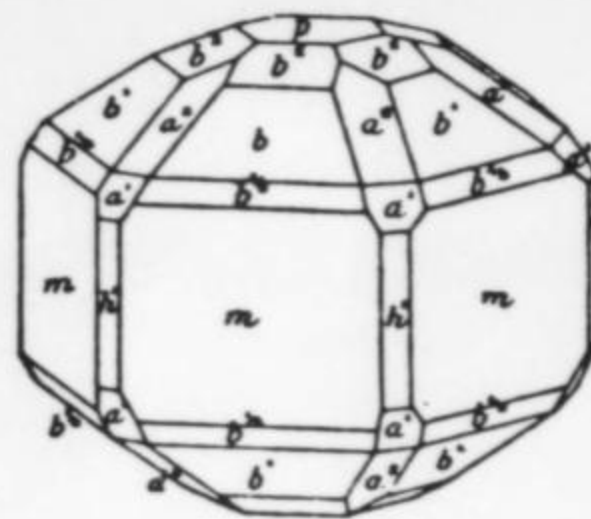
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