The Twenty-Second Annual New Mexico Mineral Symposium was held November 10 and 11, 2001, at New Mexico Institute of Mining and Technology, Socorro. Following are abstracts from all talks given at the symposium.

MINERALS OF THE MACY MINE AND OTHER SELECTED MINES NEAR HILLSBORO, NEW MEXICO, by Ramon S. DeMark, 8240 Eddy Avenue, N.E., Albuquerque, NM 87109

(Location 1 on index map)

Hillsboro and the Las Animas mining district in Sierra County, New Mexico, evoke images of a sleepy town with a history of gold mining. Before the turn of the twentieth century, however, prospectors also turned an eye to the southeastern part of the district along Ready Pay Gulch and Percha Creek. It was called the “lead-carbonate belt” in early reports. Prospectors located deposits of vanadium, manganese, and secondary lead minerals and filed numerous claims in the area.

Sierra County residents were so proud of the mines and minerals of Hillsboro and surrounding mining districts that they sent 12 tons of ore specimens to the 1893 World’s Columbian Exposition in Chicago. The minerals were used to cover a miner’s cabin that was constructed in the Mines and Mining Building. Specimens from the Percha, Big Chief, and other mines in the area were used in the exhibit.

In recent years, mineral collectors have focused on a mine generally known as the Macy mine on the south side of Percha Creek near the spot where Ready Pay Gulch enters the Percha. Although known as the Macy mine, a search of Sierra County mining claim records reveals that the mine was first located on June 14, 1892, by George E. Robin, Steve J. Macy, and Ed Strickleland and was named the Percha mine. This mine was never named the Macy mine but should probably best be called Macy’s mine in recognition of long-standing usage and the fact that Steven Macy was one of the original claim owners. This misnomer most likely resulted from Fayette Jones’ reference to the area in 1904 as follows: “It is said that this is the largest body of vanadium ore known in the world. The property is known as the S. J. Macy lode.” Minerals identified from this mine include vanadinite, endlichite, mimetite, wulfenite, descloizite, galena, cerussite, fluorite, and heulandite.

In May 1981, lustrous, small-black crystals were found by the author on the dumps of what, at that time, was an unknown mine on the north bank of Percha Creek across from Macy’s mine. In September 1981, Paul Hlava confirmed by microprobe analysis that these crystals were kentrolite, the lead manganese silicate that forms a series with melanotekite, the lead iron silicate. A search of the Sierra County claim records determined that this mine was originally located as the Big Chief mine and was filed on October 25, 1892. Vanadinite, which is present in association with kentrolite and wulfenite, has been reported but not confirmed.

Melanotekite from New Mexico was first described by C. H. Warren in 1897. The material was provided by W. M. Foote of Philadelphia and J. H. Porter of Denver. They obtained the material from George E. Robin (one of the first claim owners of the Percha [Macy’s] mine and several other mines in the area). The material was described as coming from the Rex and Smuggler mines at Hillsboro. George Robin was claim owner of the Rex mine along with Steven Macy and two others. The mine was located on March 10, 1892. The Smuggler mine was not under claim by Robin or Macy and was outside the “lead-carbonate belt.” The precise location of the Rex mine remains unclear, and melanotekite has not been recovered from the Hillsboro area for over 100 yrs.

The Petroglyph mine (west of Ready Pay Gulch and just south of New Mexico 152) was located as the Miners Dream mine in May 1916 and relocated as the Petroglyph mine on September 3, 1962. Specimens of wulfenite, vanadinite, descloiizite, willemite, and hemimorphite have been recovered from this mine. Heulandite and possibly mordenite have been found at a small mine just south of Ready Pay Gulch about 0.5 mi south of New Mexico 152. It has been called the Rex mine, but this identification remains uncertain. Cryptomelane has been identified by microprobe analysis from the Trojan mine on the east side of Ready Pay Gulch about 0.5 mi north of Macy’s mine.

A search of Sierra County claim records (from 1884 up to the present, in the area of the Percha Creek box, north up Ready Pay Gulch to the intersection with New Mexico 152) reveals intense claim activity starting in 1892 (Percha, Big Chief, Whaleback, Flora Temple, Animas, Sarmia, and others). Many of these claims were filed again in the early 1900s by William F. Hall under such names as the Endlichite, Melanotekite [sic], Pyromorphite, and Wulfenite. Much later, the original Percha (Macy’s) mine claim was filed again as the Barking Frog by Dick Jones and others in 1980 and as the Bobbi Dee in 1983. The latest attempt at filing on this site by Mike Sanders and Tom Massis in 1996 resulted in a rejection by the Bureau of Land Management with the stated reason that the mineral rights were not federal leasable nor subject to claim.

Around 1897, William F. Hall of Hillsboro shipped 1,250 lb of vanadium minerals to the A. E. Foote Mineral Company of Philadelphia. These specimens were distributed as rare mineral specimens to various public and private collectors throughout Europe and America. Where are these specimens today? George Robin, in his letter of February 24, 1893, states that “we are now collecting and will have within 30 days from 1,800 to 2,000 lb of choice mineral specimens to fill the eight show cases” (at
the 1893 Columbian Exposition). No trace of these specimens exists today. Let us hope our generation of mineral collectors will better document the provenance of our treasured mineral specimens and preserve them for future generations to enjoy.

Endnotes


7. Sierra County Courthouse, claim records, book E, page 103.


References


February 2002, Volume 24, Number 1

New Mexico Geology

ic Bureau of Mines and Mineral Resources.


Lake George” (to the surface). The Paul Seel micro-
mount collection consists of 3,000 mounted
micromounts and 3,500 unmounted stones.

The collection also contains 150 diamonds
from the kimberlites of northern Colorado and
southern Wyoming mined by exploration
mining companies. The Geology Department has
also used funds donated by Paul Seel to pur-
chase several larger crystals and cut stones from
Colorado deposits. The most recent addition
was a donation of two, small, natural diamonds
from the current northern Canadian explo-
ration.

The extent and variety of these collections will
be illustrated. Paul Seel studied the nature of
diamond crystals and their growth using his
micromounts. The collection contains crystals
from all diamond producing areas before 1970.
He also made drawings of some of the unique
features of diamond growth.

MINEALOGY OF THE STATE LINE KIM-
BERLITE DISTRICT, COLORADO AND
WYOMING, by Peter J. Modreski, U.S. Geologi-
cal Survey, MS 915, Box 25046, Federal Center,
Denver, CO 80225

(Location 5 on index map)

Kimberlite, the igneous rock from Earth’s man-
tle that hosts most diamond deposits world-
wide, was recognized in 1964 to be present in
northern Colorado and adjacent Wyoming. Dia-
monds were first reported from one of the pipes
in 1975, and diamonds are now known to occur
in most of the ~35 kimberlite pipes and dikes in
northern Colorado and adjacent Wyoming. Dia-
monds in the district include: antigorite, apatite,
aragonite, biotite, calcite, chlorite, chrome-
pyroxene group minerals, and various layer sil-
icates, carbonates, and oxides as constituents of
the groundmass of the kimberlites. Reported
minerals include: antigorite, apatite, aragonite,
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mining and mineral collecting. I came to the area in August 1970, after serving in the U.S. Army for 2 yrs. At that time I was living in the San Juans, with almost 800 people employed in the mining industry. Jobs were not hard to find, and I landed a position as mine engineer at the Camp Bird mine located 6 mi southwest of Ouray.

Mining of the lead-copper-zinc replacement orebody at the site of the Telluride Conglomerate had just started, and I was there from start to finish. Over the next 8 yrs hundreds of fine specimens of galena, sphalerite, chalcopyrite, pyrite, calcite, and quartz were collected. The orebody was mined out by December 1978, which put about 100 people out of work. The mining was put on a caretaker basis until 1986 when another round of mining took place until 1990. During this short span, some of the finest scheelite crystals to be found in the United States were recovered from the Camp Bird vein.

The Ida rado mine, with access from Red Mountain and Telluride, had a payroll of about 300 and was mining both replacement orebodies and fissure vein deposits. The minerals from the replacement orebodies were very similar to those of the Camp Bird mine, whereas the veins yielded gold and base metal sulfides. The Ida rado mine ceased operations in November 1978, and 150 hands were laid off.

The Sunny side mine, which is located in Sun nyside Basin, was being mined through the American tunnel located at Gladstone, San Juan County. During the 1970s and 1980s the mine was the largest gold producer, and hundreds of fine specimens of gold were high-graders by the miners. In the 1980s the mine was in serious financial condition and went through a series of owners. It finally ceased operations in July 1991, with a layoff of the last 150 people. With the shut down of the Sunny side mine, the industry came to a halt—never again to recover. The golden years were over for mining and mineral specimen recovery in the active mines.

During the 1980s and 1990s sporadic small-scale mining continued, with the recovery of some very fine mineral specimens. Mineral collecting turned to the mining of specimens in active mines to field collecting on mine dumps and underground in abandoned mines. In the early 1990s the Mined Land Reclamation Division of the Colorado Bureau of Mines initiated a program of sealing all mine openings, and it is estimated that over 7,000,000 tons of material was mined through the tunnel. During the later 1990s the activities turned to outcrops of fissure veins. Some of the best mines were inaccessible, and collecting turned from recovering specimens in the light of day. Massive pumps were installed to allow following the rich underlying sulfide ores to depths ultimately reaching over 350 m. The pumps were unable to hold back the water influx, and when one pump failed in the 1980s, the entire district flooded rapidly to the water table. One later attempt was made in 1912 to dewater the mines and pursue deep ores, but except for this, all twentieth century mining was focused on scalping remnants and low grade ores bypassed in the rush to follow bonanzas to depth. Total district production is estimated to be 2,700,000 tons, grading: 1.53 grams per ton Au; 372 grams per ton Ag; 0.8% Pb; 0.02% Zn; and 0.13% Cu (Tiley, 1993). These are average grade figures and do not begin to reflect the extremely high gold and silver grades found in the enriched upper parts of the system.

Tombstone mineralization is hosted in a thick sequence of Paleozoic carbonate rocks unconformably overlain by Cretaceous shales, sandstones, and limestones. Structurally, the Tombstone district is folded into a series of northwest-striking folds cut by northeast-trending faults. A large granitic porphyry stock with related rhyolitic volcanic rocks abuts the Tombstone district to the west. Bimodal, rhyolite-lamprophyre dikes are emplaced along several of the northeast-striking faults. The district consists of silver-gold-tellurium veins developed along the northeast-trending faults and associated lead-copper-silver replacement mantos or saddle reefs (rolls) that lie along the crests of the tight northwest-trending folds—immediately below shafts and levels. The crosscutting relation ship between these two are unclear, but the veins are probably younger. Alteration includes pervasive argillic alteration of the igneous rocks and marbelization, skarn, and silicification of the sedimentary rocks. The Tombstone district is zoned from a copper-zinc-gold center to lead-zinc-silver to peripheral manganese-silver over about 6 km. The primary vein mineralogy includes: empressite, hesseite, krennerite, tellurium, rickardite, and altaite (probably) with quartz, calcite, fluorite, and adularia gangue. Replacement bodies were dominantly composed of galena, sphalerite, pyrite, chalopyrite, tetrachalcite, and alabandite with similar gangue.

Tellurium mineralization is easy to recognize early in the Tombstone district. Stopes in the highest-grade zones have literally been scraped to the limestone walls by armies of miners working with single jacks and hand chisels. Emmonsite, recognized as unusual, described as a new species in 1885, is the oldest type species from the Tombstone district, and probably came from a high-graded underground ore sample. The remains of the species are microscopic and recorded in the late 1970s and early 1980s by Sid Williams, working from dump samples. Most of the dumps were lost to early 1980s open-pit, heap-leaching operations, and the thoroughness of underground mining makes it very difficult to find more than scraps of overlooked tellurium-bearing materials. Nonetheless, a late 1980s exploration program that included systematic underground mapping resulted in the location of a few small areas of rich tellurium-oxysalt mineralization and the discovery of many district type species in situ. This has also resulted in the recognition of several attractive, although as yet, undescribed species.

It is worth emphasizing that the underground workings are in very poor condition and extremely hazardous. Most underground access is sealed, and residents living near the mine entrance tellurium-bearing materials. Nonetheless, a late 1980s exploration program that included systematic underground mapping resulted in the location of a few small areas of rich tellurium-oxysalt mineralization and the discovery of many district type species in situ. This has also resulted in the recognition of several attractive, although as yet, undescribed species.

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Tombstone district, Cochise County

Compiled from:
- Anthony et al., 1990, Handbook of Mineralogy
- Anthony et al., 1995, Mineralogy of Arizona
- Gaines et al., 1997, Dana’s New Mineralogy
- Mandarino, 1999, Fleischer’s Glossary of Mineral Species
- Cesbronite—Cu₂(As₂O₄)(OH)₂·2H₂O, orthorhombic
- Fairbankite—Pb(AsO₄)₂, cubic, cube in between Grand Central and Little Joe shafts.
- Dugganite—Pb₂Zn₂As₂O₈, hexagonal, Emerald mine dumps
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- Emmonsite—Fe₃⁺TeO₄·H₂O, triclinic, unknown locality
- Fairbankite—Pb(AsO₄)₂, triclinic, Grand Central mine dumps
- Frohbergite—Fe₂Te₂, orthorhombic, Joe shaft dump.
- Girdite—PbH₂(AsO₄), monoclinic, Grand Central mine dumps
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Robert

—Cu, by

February 2002, Volume 24, Number 1

SAMPLING THE FINEST

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Yafsoanite—Ca

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Pseudomorphs of gold after sylvanite are

action of ground water in the process of erosion.

Face one, crystalline gold—This face of gold is

the most common form that weekend

prospective seekers seek. It includes flakes and nuggets

of the yellow metal. Free gold is formed in a

crystal pattern (though often distorted by

bikas, Emerald mine dump; (Te

PbTe

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O, monoclinic, Lucky Cuss mine dump.

Winstanleyite—Titel+O

cubic, Grand Central

mine dump, 1979, named for Betty Joe Win-
stanley, finder of first specimen.

Xocomecallite—Cu2+Te6+O3(OH)2, orthorhomb-
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Yafsoanite—CaZn(Te6+O8), isometric, Empire

Mine underground; this is the material used to
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SAMPLING THE FINEST, by Jeff Swoll, P.O.

Box 7773, Phoenix, AZ 85011

An aspect of my job as a mineral and jewelry

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yet with digital cameras, but I know that some-

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FOUR FACES OF GOLD, by Harry Covery, 479

Country Road 83, Boulder, CO 80302

To most gold seekers, gold prospecting means

getting out the shovel, gold pan, sluice box, and

plastic buckets, but this is not really gold min-

ing. Placer mining is the recovery of gold after

mother nature has done the mining, milling, and

concentrating of the heavy minerals, including
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ite.

Reference

Titley, S. R., 1993, Characteristics of high tem-

perature carbonate-hosted massive sulfide

ores in the United States, Mexico, and Peru; in Kirkham, R. V., Sinclair, W. D., Thorpe, R. I., and Duke, J. M. (eds.), Mineral deposit mod-
and most of the other claims in the area are patented, but that collectors would encounter no entry problems as long as property rights are respected. During a site visit in August of 2000, no indications of claims stakes or indications of other restrictions to collecting for personal collections were observed in the area of Turquoise Mountain.

Geologic mapping by Zeller (1970) indicates that Turquoise Mountain consists of a hydrothermally altered monzonite stock and andesite and andesite breccia of the Hidalgo volcanics. The Hidalgo volcanics are believed to be early Tertiary in age, indicating that the monzonite stock may also be early Tertiary. Where exposed, the stock is generally iron stained due to the abundance of disseminated pyrite in the unweathered rock. Much of the rock has been altered to clay minerals, and this is immediately apparent from the fine-grained, white character of the rock. Turquoise is present in altered rocks as veinlets and along fracture fillings. Color ranges from sky blue to light green. A breaker bar is useful for breaking out large slabs, and a flat chisel with a hammer can be used to split apart smaller pieces. Areas with veinlets on the surface should be explored deeper with a breaker bar, as collecting in the district has undoubtedly removed the bulk of the loose turquoise on the surface.

References
Carson, Xanthus, 1975, Turquoise in New Mexico: Rockhound, v. 4, no. 2, March–April.

WULFENITE IN THE TUSAS AND FLUORITE IN AMALIA—NEW MINERAL STORIES IN NEW MEXICO by Jesse M. Kline
5094 NDCBU, 511 Apache, Taos, NM 87571
(Location 9 on index map)
In late summer of the year 2000, two mineral specimens came into my possession that have haunted and driven my field collection ever since. One is an astonishing plate, 20 cm in length, of skarn-like material sprinkled with simple rectangular crystals of amber-colored wulfenites (as much as 5 mm in length). The other is a single, loose, very pale purple octahedron of fluorite containing small crystals of calcopryite—measuring 2 cm tip to tip.

It is the story of their origin that intrigued me. There is no known record of wulfenite in the north-central Tusas Mountains; there is no known record of fluorite in the extreme northern part of Taos County.

My presentation is a recollection of events in my investigation of these two specimens—attempting to reconcile the oral historical record with the geological model in order to find the source. My documentation of said investigation has taken on overtones of “something funny happened to me on the way to the symposium.” But it makes for a fine “fishing” tale in the annals of New Mexico minerals.

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Also see web sites: NMBGMR (http://geoinfo.nmt.edu/); USGS (http://pubs.usgs.gov/).

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The Thirty-second Annual New Mexico Mineral Symposium was held November 12 and 13, 2011, at New Mexico Institute of Mining and Technology, Socorro. Following are abstracts from all talks given at the symposium. Discover the world's research. 19+ million members. 135+ million publications. 700k+ research projects. Join for free. No full-text available. Dallas Mineral Collecting Symposium. Auctions. Exhibits. Minerals in the Media. Recommended Reading. Mexico has many localities and species that are for sale online from The Arkenstone. Whether searching for fluorites from Naica, azurites from Milpillas, or mimetites from Ojuela, we have many options for fine mineral collectors. Rare and common mineral varieties are for sale including azurites, stephanite, creedite, aurichalcite, calcite, malachite, amethyst, pyrrhotite, adamite, fluorite, sphalerite, citrine, gypsum, galena, pyrite, bournonite, pyrrhotite, mimetite, tennantite, and others from localities such as Zacatecas, Coahuila, Chihuahua, Charcas, Sonora, Guanajuato, Vera Cruz, Mapimi Virgil W. Lueth Chair-New Mexico Mineral Symposium. View Event â†‘. Oct. 30. to Nov 11. The Munich Show - CANCELLED. Fri, Oct 30, 2020 9:00 AM 09:00 Wed, Nov 11, 2020 6:00 PM 18:00. Forty-nine mineral species have been identified at San Manuel. At least nineteen of these are known to occur in specimens of interest to collectors including wonderful azurite, copper, dioptase and pyrite. Refreshments will be served! For more information you can contact the TGMS Office, 520-322-5773 or tgms@tgms.org. View Event â†‘. Nov. The 41st New Mexico Mineral Symposium is happening (we hope!) the second full weekend of November 2020! Please mark your calendars folks, it should be a great time! Registration opens October 5th, 2020, for more information please visit: geoinfo.nmt.edu/museum/minsymp. New Mexico Bureau of Geology Mineral Museum updated their profile picture. May 1 Å•. New Mexico Bureau of Geology Mineral Museum updated their cover photo. May 1 Å•. New Mexico Bureau of Geology Mineral Museum. We are grateful for our generous donors, as the Mineral Museum wouldnâ€™t exist without them! Here are shots of lovely pieces from a recent donation to get you through the week. +3. New Mexico Bureau of Geology Mineral Museum. March 23 Å•. Hello mineral lovers! Support our work to protect New Mexico. The New Mexico Environmental Law Center is committed to dismantling the racist structures that are at the heart of environmental injustice and all disparate treatment of communities of color. If we do not respect the water we drink, the air we breathe, the land we sow, and the community in which we live, we cannot realize the fundamental human rights to which we are all entitled.