

ROCK TALK

Volume 18, Issue 2
Nov. - Dec.

2023- 2024

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**EXPLORE
DISCOVER
SHARE**

TUCSON GEM & MINERAL SOCIETY

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PRESIDENT'S PAGE

EXPLORE DISCOVER SHARE



Hello to you all,

I hope everyone is doing well and getting ready for my favorite time of year, the winter holiday season.

Thankfully we are finally getting some cooler weather as it's only November Mr. Winter. With this we should be seeing a bigger number of our club members back in town, as they return to the desert to enjoy the weather.

Coming up in December we will have our Annual TGMS Mineral, Fossil, Jewelry, Art & Craft Sale (tentatively set for December 2nd), and we also have the December 4th General Meeting with a very Merry Christmas appeal. Both events have always been such a great time for fellowship and allow members to show off their goodies and make some extra Christmas shopping money. These events will also be on the NEW HUB, under the "Events" page.

Currently field trips are scheduled so check the "Event" page on the TGMS HUB and, as a club member we love to be together digging for treasures. Kerry Towe has been scheduling and working on putting these trips together to go collecting. I have mentioned before that sometimes in life at some point we say enough, and in this season Kerry is almost there, so if you could partner or take over the Field Trip Chair position, please contact him or the TGMS Office, 520-322-5773.

The 69th Annual Tucson Gem and Mineral Show® is scheduled for February 8-11, 2024. As always we need "LOTS" of volunteers to make this happen. Please sign up by going to the TGMS HUB, under Volunteer Opportunities, and join us as we celebrate this year's theme which should be a good one, "Pegmatites - Crystals Big & Beautiful."

Also if you have somewhere to hang or would like to pass out flyers, contact the office to pick up publicity material.

Michael Hollonbeck
President



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TGMS General Meeting - September 11, 2023

The General Meeting of the Tucson Gem and Mineral Society was called to order by Mark Marikos at 7:03 p.m. He introduced new guests and welcomed all attendees (both online and in-person) to the meeting.

ANNOUNCEMENTS:

Members were reminded to get a ticket for the prize drawings.

Members were reminded to wear their name badges and welcome visitors and new members.

Members are to sign up for events online using the TGMS HUB. Nonmembers can contact the office (by phone or email) to get information.

PROGRAM: Mark Ascher introduced Eric Fritz, who presented "Turquoise: Stone of Mystery, Stone of Intrigue." Mr. Fritz explained the origins of Turquoise from 5,000 years ago. He described the legends and lore associated with Turquoise, which was found in Turkey, Persia, Tibet, and in Arizona, Nevada, New Mexico, Colorado, and California. To be identified as a gemstone, it must have copper and aluminum. He showed samples to the members after the presentation.

BREAK: A thank you to Rose Marques and Pat McClain for providing and serving the refreshments.

OLD BUSINESS:

Approval of the May 1, 2023, General Meeting minutes as published in the September/October 2023 issue of Rock Talk: **MOTION:** To approve the May 1, 2023, General Meeting minutes. Seconded and approved.

Micromount Meeting: A Micromount Meeting will be held on Monday, September 18, at 6:30 p.m. We will be looking at micros starting with the letter "N." A reminder has been sent to members.

Educational Class: An Educational Class will be held on Tuesday, September 19, from 11:00 a.m. to 12:30 p.m. Bill Shelton will lead a class on "Mineral Chemistry." A reminder has been sent to all members.

NEW BUSINESS:

Show Committee: Attending 2024 TGMS Show Committee members introduced themselves and explained the committees they lead. Members were encouraged to sign up to volunteer via the TGMS HUB.

DRAWING FOR DOOR PRIZES: Mark Ascher conducted the drawing. Pat McClain, as meeting hostess, made the first selection. The winners were: Jack Henderson, Larry Maney, Bob Melzer, Suzanne Collier, Jim Kennedy, Bob O'Donnell and Jean Sarson.

The meeting was adjourned at 8:45 p.m.

Respectfully submitted,

Linda Ross,
Recording Secretary



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TGMS General Meeting - October 2, 2023

The General Meeting of the Tucson Gem and Mineral Society was called to order by President Mike Hollonbeck at 7:02 p.m. He introduced new guests and welcomed all attendees (both online and in-person) to the meeting.

ANNOUNCEMENTS:

Members were reminded to get a ticket for the prize drawings.

Members were reminded to wear their name badges and welcome visitors and new members.

Members are to sign up for events online using the TGMS Member HUB. Nonmembers can contact the office (by phone or email) to get information.

PROGRAM: Dave Korzendorfer introduced Phil Richardson, who presented "Collecting Contemporary Utah." Mr. Richardson presented an overview of the State of Utah, including the topography and early mining history. He then presented beautiful pictures of minerals from significant mines and mineral localities across Utah. He concluded his talk with guidebooks and literature about the minerals of Utah and an invitation to view his Utah mineral specimens.

ACKNOWLEDGMENT:

Tim McClain, a member, was recognized and thanked for updating the building lights and wiring. The meeting room now has a brighter and more inviting atmosphere.

TGMS Volunteers:

Show Committee Members who were in attendance introduced themselves and explained the responsibilities of their volunteer groups. Members were encouraged to volunteer for the TGMS Show.

BREAK: A thank you to Marilee and Dave Crumley for providing and serving the refreshments.

OLD BUSINESS:

Micromount Meeting: A Micromount Meeting will be held on Monday, October 9th, at 6:30 p.m. We will be looking at micros starting with the letter "O." Members are to sign up through the Member HUB.

Field Trips: A field trip to Washington Camp/Duquesne is scheduled for Saturday, October 14th. Members are to sign up through the Member HUB.

Educational Class: An Educational Class will be held on Tuesday, October 17th, at 11:00 a.m. Bill Shelton will lead a class on "The TGMS Library." Members are to sign up through the Member HUB.

NEW BUSINESS:

Field trips: Upcoming field trips are being scheduled and will be published as they are finalized in the Member HUB.

DRAWING FOR DOOR PRIZES: Dave Korzendorfer conducted the drawing. Dave and Marilee, as meeting hosts, made the first selections. The winners were Bob Melzer, Giovanni Smith, David Smith, Kathy O'Donnell, Linda Dufek, Pattie Rose, Cathie Logan and Esther Andrews Fletcher.

The meeting was adjourned at 8:51 p.m.

Respectfully submitted,

Linda Ross,
Recording Secretary



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Field Trip to Washington Camp/Duquesne By Pattie Rose – Trip Leader

On a beautiful fall day, eight members of the Tucson Gem and Mineral Society headed out to collect specimens of Japanese Law twinned quartz, garnets and various other minerals available at the Empire Mine near Duquesne. This trip would prove to have a little of something for all: collecting minerals, mining history, animals, (deer, pinion jays and horses), beautiful scenery and an annular eclipse. Members in attendance were: Sara & Bob Alberts, Esther & Michael Andrews, Galen Worthington, Brian Stark, Robert Gonzales & Pattie Rose (See photo #1).

Photo #1 The Intrepid Mineral Hunters



On the road to the meeting area on the way in from Nogales, we drove by a mine adit/ore shoot no longer in use. (See photo #2). Ore from the mines above would have been loaded into wagons or trucks here for transport to the nearby mill.

Photo # 2 – Mine Adit and Ore Shoot

At 9:00 am, we met at the appointed spot designated by the mine owners, Rick and Jill Pitrone. While waiting, the group was treated to a look at the annular eclipse of the moon and the sun, thanks to Brian Stark, who brought a solar cover from a telescope. (We later took glimpses when the eclipse reached its maximum at 9:30 am, Pacific Time.) The coverage in southern Arizona was 83%. (See photos # 3 - 4).

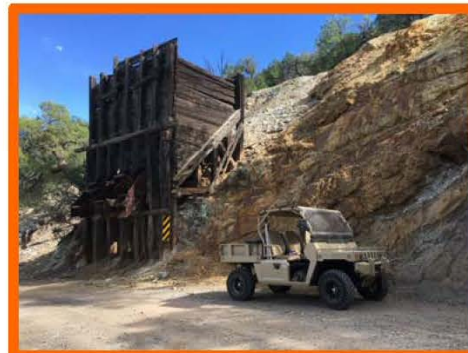


Photo #3 – Watching the Eclipse Through a Solar Filter

Photo #4 Annular Eclipse at Maximum Extent



The collecting area is at the site of the Empire Mine, Nash Mines Group, Washington Camp/Duquesne Mining Sub-section, Patagonia Mining District, in the Patagonia Mountains, Santa Cruz County, Arizona. This is a former zinc, lead, copper, gold and silver mine, patented by Captain O'Connor in 1874. The mine produced high-grade lead silver ore when acquired by the Duquesne Mining and Reduction Company in 1905. George Westinghouse became the president and consolidated 84 claims in the area. The original mill and smelter were located at Washington camp. The property is currently owned by Rick and Jill Pitrone and features not only the mines, but also the remains of the little town of Duquesne, stamp mill ruins, and a camping area for visitors. The Pitrones also have a horse rescue facility on the property.

Field Trip to Washington Camp/Duquesne ... CONTINUED

The mine is located in the Permian Naco Group Formation, a garnet mineralization zone of a silicate limestone deposit, close to a quartz monzonite contact. The formation is in close contact to a Laramide Granodiorite intrusion, thus some contact metamorphism has occurred. The mine occurs specifically in a gangue of garnet, limestone, quartz, iron oxides, calcium silicates and oxidized sulfides, which has been enriched with silver. Fossils of Rugose Corals of Permian age can still be found in boulders near the mine. (See photo #5).



Photo #5 Rugose Coral Fossils

After being led to the mine by the Pitrones, the trip leader handed out a listing per Mindat.org of the minerals present, with some physical properties of each mineral to help collectors identify what they would find. Of the 38 minerals listed, quartz, andradite garnet, pyrite, chrysocolla, malachite and chalcopyrite were most prevalent. But the real treasure sought after were the small Japanese Law Twinned Quartz crystals. (Fortunately, everyone found at least one.)

There were some larger "academic" examples of the twinned quartz, good for explaining the habit, but not impressive as specimens because of incompleteness, milky color or heavy manganese staining. (See photo #6).

Photo #6 – Example of Twinning Habit in Quartz

Massive clusters of quartz crystals were also popular with collectors. These were milky or smoky in color, but a few clear specimens were found. (See photos 7 & 8).



Photo #7 Quartz Cluster & Collector Michael Andrews

Photo # 8
Milky Quartz
& Garnet
Collected by
Robert
Gonzales



Field Trip to Washington Camp/Duquesne ... CONTINUED

Some members found nice one to two-inch andradite garnets, a calcium iron silicate mineral, showing classic isometric – hexoctahedral crystal structure as single big crystals or in solid clusters. These were dark-brown to greenish in color due to chromium impurities and some manganese or iron staining. (See photo #9). Most garnets were smaller and in aggregates or clusters that caught your eye as they sparkled with adamantine luster.

**Photo #9 Andradite Garnets
Collected by Pattie Rose**



Telltale copper minerals were present in patchy areas. Many participants found pyrite, chalcopyrite, chrysocolla and malachite occurring as a secondary mineralization or coatings on rocks. The stamp mill location

featured very nice Chrysocolla specimens. (See photos # 10 - 12).



**Photo #10 Chrysocolla, Quartz, Chalcopyrite & Galena
Collected by Sara Alberts**

**Photo #11 Chrysocolla, Malachite
& Garnet Collected by Pattie Rose**



**Photo #12 Cubic Pyrite
Collected by Galen Worthington**

The group collected from about 9:15 am until around 1:00 pm, then stopped for lunch and to examine what we had found. The Pitrones had set up a rest/lunch area and we all had a great time talking, laughing and sharing stories. Members used their mineral lists to help them identify more specimens that they had found such as Goethite and Rutile. (See photos # 13 – 14). Specimen sizes ranged from massive clusters to micro-mount beauties.

Photo # 13 - From left to right: Galen Worthington, Bob Alberts, Sara Alberts, Jill Pitrone, Rick Pitrone, Brian Stark, & Robert Gonzales (Pattie Rose took the photo).



Photo #14 – Pattie Rose Helping to Identify Minerals for Sara Alberts (Loupe/ Hardness Test Kit) – Don't Leave Home Without Them.

Field Trip to Washington Camp/Duquesne ... CONTINUED

With our tummies full and everyone well hydrated, we ventured over to greet the horses rescued by the Pitrones, and take in some views of this beautiful area. (See photos 15 & 16).



Photo #16 What a View!

Photo #15 Feeding Apples to the Horses



On they way out, we stopped at the abandoned stamp mill to collect Chrysocolla and possible fluorescents. (See Photo #17).

Photo #17 Stamp Mill Remains



Everyone got some nice small chunks of Chrysocolla and Pattie Rose collected ten possible fluorescent specimens for testing. Upon arriving home, she was not disappointed; all ten fluoresce either in one color or in combinations of colors under shortwave ultra-violet light (SWUV). Strangely, many of the banded Chrysocolla specimens fluoresced white due to other minerals in the matrix. She also discovered that some of the quartz specimens having dark gray or black hematite matrices, included tiny peach colored Scheelite crystals which fluoresced bright blue-white in SWUV. (See photos # 18 – 21).



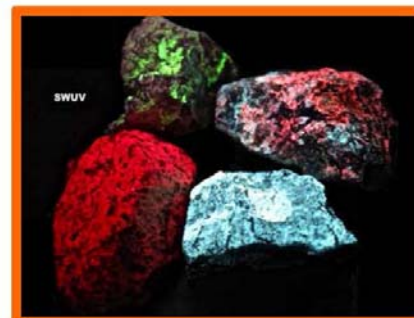
Photo #18 Normal Light - Quartz on Hematite w/Scheelite

Photo # 19 - SWUV (UV-C) Quartz on Hematite w/Scheelite



Photo # 20 – Test Specimens – Minerals TBD, Normal Light

Photo #21 Test Specimens – Minerals TBD, SWUV (UV-C)



Maybe a weekend collecting trip in the spring is in order. This location provides access to members interested in both micro- and macro- mineral specimens, fossils and fluorescent minerals. Field trips are a great way to learn from each other in a hands-on manner and to make lasting friendships. Besides, we all need a little fresh air, sunshine and exercise to invigorate both our bodies and minds.

Field Trip to Washington Camp/Duquesne ... CONTINUED

Photo Credits:

Pattie Rose – Photos 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16, 17, 18, 19, 20 and 21. Camera: Canon EOS Rebel T5; UV photos taken with UV filter and straw filter to reduce “UV bluing” of specimens.

Galen Worthington – Photos 2, 12, 14, and 15. Camera: cell phone.

Sources:

Mindat.org – Mines, Minerals and More, Empire Mine, Nash Mines group (Duquesne-Washington Group), Washington Camp-Duquesne District, Patagonia Mining District, Patagonia Mountains, Santa Cruz County, Arizona, USA.
<https://www.mindat.org>

“Mine Tales: Arizona is renowned for Garnet Gemstones.” William Ascarza, Arizona Daily Star, July 11, 2017 & updated June 1018. https://tucson.com/news/local/mine-tales-arizona-is-renowned-forgarnet-gemstones/article_cf9f5b69-8640-5rdf-af41-fb14a83badd.html.

“Empire Mine” Western Mining History. <http://westernmininghistory.com/mine-detail/10137287>

VOLUNTEER!!!

As you can see, we have lots of *Volunteer Opportunities* for our members to get involved. You have to be a current member to do so and, if you are, login in to the *NEW HUB* (<https://hub.tgms.org/login/>) and you will see where to find the section on what to click on to get to these two categories ... be bold, be brave and sign up to be a volunteer for *Society opportunities* or *Show opportunities*.

Hope to see lots of forms coming our way!

Volunteer Opportunity

Society

- Society Officer/Director
- General Meeting Greeter
- Community Outreach
- SARSEF Judging (Science Fair)
- Assist the Office
- Librarian
- Educational Instructor
- Rock Talk Contributor
- Facility Maintenance
- General Meeting Refreshments
- Host Summer Potlucks
- Christmas Party Committee
- Field Trip Chair
- Field Trip Assistant
- Society History

Volunteer Opportunity

Show

- Show Office Info. Desk
- Agate Suite
- Case Linings
- Display Cases
- Competitive Exhibits
- Special/Guest Exhibits
- Exhibits Move-in & Move-out
- General Retail
- Mineral
- Micromount Symposium
- Micro Mineral Room
- Docent Program
- Information Booth
- Giveaway Booth
- Product Sales
- Educational Exhibitors
- Publishers
- Junior Education
- School Visits
- Publicity

FMI Family Day!

By Ortrud Schuh

Last month my employer Freeport McMoRan (FMI) had a family day at their Technology Center near the Tucson Airport. At 12:00 noon on September 21st all machines were stopped and the doors opened to friends and family members.

We welcomed approximately 220 visitors. Each department provided information about the research being done at the facility, as well as some fun science related entertainment for the children.



While 'Mineral Processing' handed out toy mine trucks and popcorn and explained the mechanics of milling, leaching and floatation, the 'Analytical Lab' had set up posters illustrating each assay method and amazed the visitors with a firework of colors created by the Atomic Absorption Spectrometer. The 'Material Characterization (Mineralogy)' group set up a mineral dig, which was extremely popular with rock hounds big and small. While the little ones dug through the sandboxes with spoons and their bare hands creating a total mess, the adults were tasked



to pick out the treasures with chopsticks, which created quite a challenge for some. Since everyone could take home whatever they collected some determined rock hounds lingered, teamed up with others for trades or came back again and again. Amongst the treasures were copper minerals like chrysocolla, chalcopyrite and pyrite from our mines, others were graciously donated by TGMS. Especially the translucent Apache tears, clear quartz crystals and shiny peacock ore chips were very popular.



The FMI volunteers had just as much fun as the guests. A huge "Thank you" to Pat McClain and TGMS for facilitating this activity and supporting me by providing some of the minerals. This was certainly a community outreach effort that may have created a new understanding of earth sciences for many and even may have sparked a passion for mineral collecting in some of the visitors.



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PURPOSE: To encourage interest and study in geology, mineralogy, lapidary, and allied earth sciences.

Meetings: Usually the first Monday of the month, starting at 7:00 p.m., except September (second Monday because of the Labor Day holiday), June-August (potlucks). The TGMS facility address is: 3727 East Blacklidge Drive, Tucson, Arizona 85716

The Tucson Gem and Mineral Show @:
The second full weekend in February, starting with Thursday.

Affiliations: American Federation of Mineralogical Societies, Inc. (AFMS), Rocky Mountain Federation of Mineralogical Societies (RMFMS), Visit Tucson, Tucson Metropolitan Chamber of Commerce (TMCC), Greater Oro Valley Chamber of Commerce

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