



THE ROCKHOUND RECORD

EXPLORE < SHARE < INSPIRE

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SEPTEMBER 2019



Arizona's Oldest Mineral Society

Est. 1935



Arthur L. Flagg
Founder

COVER

Goethite, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ on quartz,
 SiO_2 , 3.5cm, Graves Mountain,
 Lincoln County, Georgia, USA.
 Chris Whitney-Smith Collection and Photo

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President's Message

Summer isn't quit over until end of October in the Valley of the Sun and our recess seems longer than usual due to September meeting on 3rd Thursday (September 19th) to allow members to enjoy Denver Shows and festivities. I'm eager to resume our Fall schedule and look forward to Fall program line-up of stellar speakers and awesome field trips.

MSA bid farewell to three members who recently passed away and I trust we will celebrate their lives and remember the passion and sense of wonder they had for our hobby and pay it forward to each other and the next generation.

Richard Brundige (December 24, 1938-August 15, 2019)

Betty Deming (August 6, 1931-May 21, 2019)

Darryl Burnett (September 14, 1960-April 4, 2019)



Juniors Program (Future Rockhounds of America (FRA)): Junior members, please arrive no later than 6:40PM for Junior Program before General meeting. Junior Raffles prizes will be awarded after Junior program. Junior Program is 6:45-7:15PM.

Our **September 19th** program will be presented by **Dr. Peter Megaw** on "Immortality, Willard Perkin, Mexican Mines and Yogi Berra." MSA is delighted to have Dr. Megaw kick off Fall line-up with his talk that recalls his connection to Willard Perkin inventor of the perky box that house thumbnail (TN) sized minerals. *I shared with Dr. Megaw that MSA founder Arthur Leonard Flagg coined (TN) term of measurement for one inch size minerals in 1930's for members of MSA and by 1940's, TN mineral collecting as a hobby proliferated.* Peter's talk begins with story about a legrandite TN from the Ojuela Mine, mounted in perky box and sold by the late mineral dealer Willard Perkin and a fantastic Mexican mining journey that lead to several well-known mineral localities, whose history, scenery and minerals we will visit in some detail.

MSA **September 21st Field/Museum Trip** to **LGF Natural History Galley** includes a Potluck with special program by **MSA 1964 President Bob Jones** on "**The Quartz Minerals.**" See elsewhere in newsletter to RSVP to join us for LGF Gallery tour, MSA fellowship potluck and special talk by Rock&Gem Sr. Contributing Editor Bob Jones.

Our **October 10th program** will be presented by **Mr. Mark Hay** on "**Cerussite Localities in Arizona.**" Mark is a luminary of our hobby and a renowned Arizona mineral collector. Mark's talk will focus on Arizona's secondary lead deposit localities and in particular, Cerussite (PbCO_3) and its wide and wonderful range of forms and associations with other mineral species. This is a must see program so, mark your calendars!

Our **November 14th program** will be presented by **Dr. Raymond Grant** on "**Collecting Around the World In 80 Years!**" By time of his program, Ray will have turned 80 and has an amazing lifetime of collecting and adventures to share with MSA! This will be a special event, so mark your calendar!

December is MSA's 84th Birthday (1935-2019)! MSA will celebrate our Anniversary on **(1st weekend in December), Saturday, December 7th at Holiday Jamboree/Christmas Party** with Adult & Junior Competitions, announcement of 2019 Rockhound of the Year and election of 2020 Officers and Board of Governors. Jamboree will be packed with food, fun, friends, silent auctions and raffles.



2019 Committee Members

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FieldTrips@msaaz.org

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MSAclub1935@msaaz.org

2035 Centennial Curator: Chris Whitney-Smith

Board Governors

Term Expires (2021)

Jeff Craig
Eric Putman

Term Expires (2020)

Mike Williams
Carlie Murphy

Term Expires (2019)

Bob Holm
John Tibbits

Past President

Dr. Raymond Grant

President's Message - Continued.

MEETING LOCATION

**Franciscan Renewal Center, Piper Hall
5802 E. Lincoln Drive, Scottsdale, AZ 85253.**

*** ALERT:** Must check **Meeting Schedule** listed on msaaz.org, under **MSA CLUB** tab to verify meeting location, room, dates and time.

* Future Rockhounds of America Junior members arrive 6:40PM and Junior meeting starts 6:45PM.
* General meeting members arrive 7:00PM. Meeting starts at 7:30PM.
* Brief business meeting, raffles, silent auctions, refreshments & buy/sell/trade events after program.
* Contact MSA via email: MSAclub1935@msaaz.org.

Steve Kaminski and I were delegates representing MSA at Rocky Mountain Federation of Mineralogical Societies (RMFMS) Convention hosted by Prescott Gem & Mineral Club in August. Convention was perfect in person opportunity to connect with regional and national club leadership. MSA club members Les Presmyk and David Tibbits installed winning competitive mineral exhibits at Convention. David won 1st place ribbon for his Adult Novice thumbnail minerals and on behalf of Les, I accepted two trophies from Dr. Bob Carleson for Les' Adult Master Arizona and pseudomorph mineral exhibits. I also accepted on behalf of Daisy Mountain Club, a Convention 2nd Place Website Award. I presented Les with his trophies at Gilbert Mineral Sale and presented Daisy Mountain award at their September meeting. Many thanks to AZ/NV State Director Jodi Brewster for obtaining club proxies and delegates to ensure convention had more than sufficient votes to discuss and move forward regional business. Our clubs; local, regional and national take a village to operate ... many thanks to legion of volunteers that step forward to give of their time and talents to keep our hobby running, educational and fun.

BIG MSA THANK YOU to following who joined me in making donations to MSA since previous MSA meeting:

Dr. Shirley Fiske John Christian John Seitz
Dr. Nathan Scholten

**Thank You MSA Officers, Board, Chairs and
Coordinators for all you do for MSA!**

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Cheers!

Chris Whitney-Smith

Special Programs, Donations, Welcome New Members

2019 MSA SPECIAL PROGRAMS:

<u>MONTH/DAY</u>	<u>ROOM</u>	<u>SPEAKER / PROGRAM</u>
September 19th	Serra	Dr. Peter Megaw "Immortality, Willard Perkin, Mexican Mines and Yogi Berra"
October 10th	Serra	Mr. Mark Hay "Cerussite Localities in Arizona"
November 14th	Serra	Dr. Raymond Grant "Collecting Around the World In 80 Years!"
December 7th	Serra	MSA Holiday Jamboree/Christmas Party, Election of 2020 Officers/Board, Junior & Adult Competitions, 2019 Rockhound of the Year (Adult & Junior).

QUALITY MINERAL DONATIONS WITH LABELS NEEDED:

Please see Chris Whitney-Smith. Mineralogical Society of Arizona is a 501(c)(3) non-profit organization and will gratefully acknowledge your significant In-Kind Donation with a TAX Deduction Letter. All individuals making In-Kind donations to our non-profit organization may claim a tax deduction based on the fair resale value of the items donated. *It is the contributor's responsibility to determine this value.* Your contribution to Mineralogical Society of Arizona is fully deductible for tax purposes to the extent allowed by the current tax laws. If you have any further questions, please consult your tax advisor. **Thank you again for supporting Mineralogical Society of Arizona!**

WEARING MSA NAME BADGES PAYS OFF!! MSA members wearing their MSA Name Badges to general meetings will be issued a special raffle ticket and be eligible to participate in raffle to play Prize Drop game with opportunity to win one of four prizes! If you don't have an MSA Name Badge, see Membership Chair, Mr. Ron Ginn at meetings or email Ron at MSAClub1935@msaaz.org. MSA Name badges are \$10.00. It's not just about winning prizes, it's fellowship and getting to know each other.

MSA TABLE OF FREE AWESOMENESS: Based on recent field trips and donations, several specimens or publications may be available for MSA membership for Free. Based on available quantities and first come first serve basis, members are requested to pick one item and allow all members who are interested a chance to take home a little treasure. *No hoarding allowed.* This is a generous and fun practice to build collections & offer members who weren't able to join a field trip an opportunity to select a specimen from recent excursions.



WELCOME NEW MEMBERS TO MSA FAMILY TREE

♦ Terri Foley	Scottsdale
♦ David Perry	Phoenix
♦ Jon Thomas	Scottsdale
♦ Ian Carlson	Tempe
♦ Bonnie Conrad	Glendale
♦ Dave Conrad	Glendale
♦ Milan Mahant	Phoenix
♦ Rajesh Mahant	Phoenix
♦ Nicholas Stachel	Glendale
♦ Alexis Woods	Phoenix
♦ Emma Davis	Chandler
♦ Susan Christian	Scottsdale

Commemorating 50th Anniversary Apollo Mission to Moon (1969-2019)



Earthrise Apollo 11 Moon Mission July 19, 1969.
NASA Photo



June 13, 2019 Mineralogical Society of Arizona General Meeting Minutes.

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By Steve Kaminski

The meeting was called to order by MSA President Chris Whitney-Smith at 7:30 PM on Thursday, June 13, 2019 at Franciscan Renewal Center, Piper Hall, Padre Serra Room, Scottsdale, AZ.

Chris Whitney-Smith Opening Announcements:

- Junior program tonight by Dr. Nathan Scholten: Gems & Minerals. Juniors present; Sam, Colton, Elyse, Owen, and alumni junior Maggie Lyons.
- MSA opened meeting with Pledge of Allegiance, followed by a request for visitors to introduce themselves. Warren and his son Owen (amateur paleontologists checking out MSA at suggestion of John Christiansen); Dan, a collector who has dinosaur material; Carmen Barns (Preschool teacher, Rockhound and birthday lady); Amanda (math and science teacher); Mabel (teacher and loves gems & minerals), DaNel Hogan (director of the STEM-AZING Project with other teachers all from Tucson); Mike Whitman (friend of Steve Kaminski; invited the teachers to come to the Western Technologies materials lab).
- Junior raffle held before start of general meeting. Junior raffle was won by Sam.
- Chris thanked those who volunteered to bring refreshments.
- Adult & Junior Members and Visitors see Bob Holm for raffle tickets if you haven't received one.
- **June** Mineral of Month is **CUBANITE**.
- **September** Mineral of Month is **GOETHITE**.
- MSA Name Badges were on front table for those who ordered name badges to pick up.
- Chris introduced speaker **Mike Fleeman** who presented program "Pieces of Time a Look of Natural History" from the building blocks of our solar system, meteorites and tools and weapons of early man and fossils in between. Mike passed around many specimens including pieces of the moon and mars, campo de Ceilo meteorite, a pair of pyritized plesiosaur/ichtheosaur vertebrae, spear points, mace (a knobby blunt-force weapon) and many many more special specimens and artifacts. Thank You Michael!
- Chris mentions that MSA will make a field trip to Mike's LGF Museum Gallery on Saturday, September 21, potluck; Bob Jones will do a program on quartz, and Mike will debut his pachycephalosaur. Mike says he'll bring out his bear dog fossil, scariest thing on earth (Bob Jones states that Mike has "not seen my mother-in-law"). The trip is titled Game of Bones Dragon's Dominion on Earth, come see the dragon's lair.
- Chris presented Mike a Certificate of Commendation for his presentation.

Closing Announcements:

- **Our next program will be by Dr. Peter Megaw on "Immortality, Willard Perkin, Mexican Mines and Yogi Berra."**
- Utah trip started today (i.e. June 13), about 20 people from MSA are heading up there today.
- Gilbert Mineral sale Saturday, August 10, 2019.
- Rocky Mountain Federation of Mineralogical Societies Convention & Prescott Gem & Mineral Show in Prescott August 2, 3, & 4. See Chris for details on meeting & competitions. Chris Whitney-Smith & Steve Kaminski will represent MSA as delegates at convention.
- The teachers mentioned desire to initiate a drive for mineral collections to be assembled for classrooms in Arizona.
- A member brought topo maps for the free table of awesomeness.
- Dollar Raffle: a sphalerite.; won by Dr. Jabulani.
- Member Door Prize.; won by Dr. Jabulani.
- Visitor Door Prize: celestite; Ruia; won by a DeNal Hogan.
- Junior Door Prize: chalcedony donated from Headframe Minerals; won by Harrison S. Other's present: Sam, Colton; a young lady who left after the Jr Program; also Joey Philpott's girl.
- First Puck-drop Name Badge Prize: Sam won from the treasure chest.
- Second Badge Prize: Sam won.
- Third Name Badge Prize; Dr. Jabulani won.
- Fourth Name Badge Prize; won by Doug Duffy.
- Reminder MSA Name Badges were on front table for those who ordered name badges to pick up.
- Chris thanked everyone for attending meeting and bringing refreshments. Remember to pick up your containers and leftovers before you leave.

The meeting was adjourned at 9:05pm.

- Silent Auction was held & Refreshments served.

Refreshment Volunteer List and Mindat.org

By Carlie Murphy and Chris Whitney-Smith.

Refreshment Volunteer List MSA Monthly Meetings

For Monthly MSA Meetings:

If your last name begins with the letters listed during each month; please bring in a snack of your choice to share with MSA members after general meetings. Your cooperation is greatly appreciated.

MSA will supply drinks, cups, plates, utensils & napkins.

January A, B

February C, D, E

March F, G, H

April J, K

May L, M

June N, O, P

September **R**

October S, T, V, W, X, Y, Z

November Open to everyone. Please bring something to share with your friends.



**** Suggestions for refreshment foods to bring ****

Any type of chips, pretzels, cookies, crackers, fruit, vegetable or meat and cheese trays.

This is a volunteer effort and we appreciate your help in making our social time special for all club members.

Thank You.

RSVP

Refreshments you will bring to:

carlies_email@yahoo.com



mindat.org

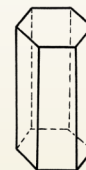
Mindat.org is the largest mineral database and mineralogical reference website on the internet. Mindat.org contains worldwide (and a few spots on the moon) data on minerals, mineral localities, mineral photographs and other mineralogical information. Mindat.org is growing every day, with new mineral information, localities and photographs added by members. Join Mindat.org to keep the site updated with information on areas you are familiar with.

Users of mindat.org range from novices just becoming aware of minerals to professional mineralogists. All levels of expertise are welcome to participate on mindat.org, everybody is still learning more about mineralogy. The chat room allows people interested in minerals to communicate with each other in real time, while the message board provides a forum for people that have questions about many aspects of mineralogy to have them answered in a more formal manner.

INTRODUCTION

Minerals

1. Mineral Information
2. Mineral Classification (Chemical groups)
 - Strunz Groupings
 - Hey Groupings
 - Dana Groupings



Localities (Mineral lists)

1. Standard Locality Display
2. Regional Report
3. Detail information about mineral at a locality
4. Recent Locality Changes

Photographs

1. Photographs
2. Photo of the Day



Aurichalcite, $(\text{Zn,Cu})_2(\text{CO}_3)_2(\text{OH})_6$
79 Mine, Gila County, Arizona.
Ron Gibbs Photo

Minerals

1. Mineral Names
2. Search by Chemistry of a mineral
3. Mineral Identification by physical properties

Localities

1. Locality Search
2. Mineral Associations
3. Mineral occurrences in a region
4. Mineral occurrences in a country



Photographs

1. Search Photograph database
2. View a member's Mineral Photograph gallery
3. Mineral photographs in a region



2019 MSA MEETING SCHEDULE & MAP



MSA 2019 Meeting Schedule

<u>MEETING DATE</u>	<u>ROOM NAME</u>	<u>START TIME</u>
January 10 th	Padre Serra	7:30 PM
3rd Thursday, February 21st	Padre Serra	7:30 PM
March 14 th	Padre Serra	7:30 PM
April 11 th	Padre Serra	7:30 PM
May 9 th	Padre Serra	7:30 PM
June 13 th	Padre Serra	7:30 PM
July	NO MEETING	* * * * *
August	NO MEETING	* * * * *
3rd Thursday, September 19th	Padre Serra	7:30 PM
October 10 th	Padre Serra	7:30 PM
November 14 th	Padre Serra	7:30 PM
Saturday, December 7th	Padre Serra	5:00 PM



View of Camelback Mountain, Paradise Valley, Arizona; © Joan Levinson.



MSA MEETING PLACE

Franciscan Renewal Center
PIPER HALL
5802 E. Lincoln Drive
Scottsdale, AZ 85253

Arrive 7:00 PM
Meeting Starts 7:30 PM

MEETING ROOMS LOCATED INSIDE PIPER HALL

***** Parking Behind Piper Hall *****

***** Verify Room & Date Above *****

Future Rockhounds of America (FRA) - Calling All Juniors!

Dr. Nathan Scholten, MSA FRA/Juniors Program Chairman

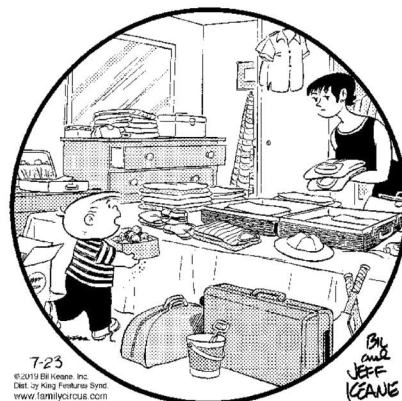
Greetings Juniors!

Remember to arrive on time and I look forward to seeing you at the meeting!

See you all Thursday.

Nathan

FAMILY CIRCUS BIL KEANE



"We better take my rock collection with us in case some burglars get in while we're away."



Mineralogical Society of Arizona in association with American Federation of Mineralogical Societies, is pleased to introduce Future Rockhounds of America Badge Program for Junior Members age 10 to 17 years.

Please contact us at email: MSAFRA@msaaz.org.

MISSION STATEMENT

Future Rockhounds of America is a nationwide nonprofit program within the American Federation of Mineralogical Societies that develops and delivers quality youth activities in the earth sciences and lapidary arts in a fun, family environment. Our underlying goals are to foster science literacy and arts education through structured activities that are engaging and challenging and by which kids—and the adults who mentor them—learn while having fun.

Check out new **JUNIORS** tab on MSA website; msaaz.org.

We will start adding content to website in coming months for parents & FRA to download.

Thanks to all Juniors in MSA/AFMS FRA Program and keep on working towards all FRA badges to earn the coveted Rockhound Badge & Rock Star Pin!





2019 MSA December Mineral Competitions

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Chris Whitney-Smith

RSVPs requested No Later Than November 16th for MSA December Mineral Competitions. MSA Holiday Jamboree, Christmas Party and Mineral Competitions are **Saturday, December 7, 2019 at Franciscan Renewal Center.** We have reserved **SERRA Room** with large round tables for dinner and a smaller room for mineral competitions. Please **RSVP** to Chris Whitney-Smith at Ask.ChrisWS@yahoo.com. Your team of MSA mentors look forward to hearing from you to help you prepare for mineral competitions!

CALL TO ACTION: This is MSA members opportunity to continue our founder Arthur Flagg's competitive mineral legacy with **MSA Adult and Junior Member Thumbnail Mineral and Self-Collected Mineral Competitions.** MSA is a proving ground to get constructive feedback to refine collections for further challenges. Act now to complete your mineral selections, refine your labels and presentation for competition at MSA in December, Flagg Gem & Mineral Show in January, Tucson Gem and Mineral Show® in February and other local, state, regional and national competitions.

MSA is fortunate to have prominent thumbnail mineral collectors **Raymond Grant and Alexander Schauss** who continue to inspire generations of new collectors regarding the virtues of thumbnail-size minerals and very special thanks to **Les Presmyk** for judging!

THUMBNAIL (TN) MINERAL COMPETITION JUNIOR & ADULT MEMBERS

Rules

- ◆ Each member should have minimum (30) thumbnail specimens.
- ◆ They should be displayed on bases.
- ◆ They must be labeled as to what they are and where they are from.
- ◆ They will be judged based on **TGMS rules** for quality, presentation (label completeness & neatness) and what the specimens are.
- ◆ **See following page for specific rules and details.**

SELF-COLLECTED MINERAL COMPETITION JUNIOR & ADULT MEMBERS

Rules

- ◆ Each member should enter (10-20) self-collected minerals collected in 2019.
- ◆ Collection should fit within 20"x28" Poster Board.
- ◆ They must be labeled as to what they are and where they are from.
- ◆ They will be judged based on **TGMS rules** for quality, presentation (label completeness & neatness) and what the specimens are.
- ◆ **See following page for specific rules and details.**

MSA DECEMBER COMPETITION AWARDS:

1. Thumbnail (TN) Minerals

- a. **Adult:** 1st, 2nd, 3rd
- b. **Junior:** 1st, 2nd, 3rd

2. Self-Collected Minerals Collected in 2019

- a. **Adult:** 1st, 2nd, 3rd
- b. **Junior:** 1st, 2nd, 3rd

EXAMPLE CASH AWARDS:

- **UNDER (5) Competitors:** \$50 winner take all.
- **OVER (5) Competitors:** 1st Place gets \$25, 2nd Place gets \$15 and 3rd Place \$10.

Please **RSVP No Later Than November 16th** to Chris at Ask.ChrisWS@yahoo.com if you would like to participate in any of these competitions to help ensure we have tablespace reserved for you to set up. Once I have received ALL RSVP's, I will send additional information to participants on time to set-up.

Start refining your TN & Self-Collected Mineral choices and showmanship!



MINERAL COMPETITIONS & RULES FOR MINERAL EXHIBITS

MSA DECEMBER MINERAL COMPETITION CATEGORIES

1. THUMBNAIL (TN) MINERAL COMPETITION JUNIOR & ADULT MEMBERS

Thumbnail minerals, assorted, minimum of 30. Each specimen shall be displayed so that a **1" (2.5cm)** cube can be placed over it and the bottom edge of each side of the cube shall rest on the same flat surface as the specimen. No micromounts are allowed: crystal not visible to the naked eye without requiring magnification.

2. SELF-COLLECTED MINERAL COMPETITION JUNIOR & ADULT MEMBERS

Minerals field collected by the exhibitor. The entry must be field collected and labeled as such.

MSA & TGMS hopes this will encourage field collectors to display new material.

RULES FOR MINERAL EXHIBITS

(Sourced TGMS Competitive Exhibitor Handbook Rev 7/28/2016)

QUALITY: Judging will be based on the condition of crystals (freedom from bruises and flaws); size of crystals (typical of species); color (typical or exceptional for the species); aesthetics (arrangement of crystals); clarity (freedom from excess foreign material); and the visible amount of identified mineral(s) to be judged.

LABELING: Each specimen shall have a label showing the following information:

a. The name of the mineral species & the name of the variety of the species, if applicable. Species being judged should be in **CAPS**. **QUARTZ variety AMETHYST** or **QUARTZ var. AMETHYST**

Names shall not be modified by extra or descriptive words such as: gray **GALENA** crystals.

Descriptive terms used to point out unusual features should be in parentheses.

AZURITE (pseudo-cubic crystals) or **QUARTZ (Japan-law twin)**

Consider abbreviated use of names on labels and being consistent in the type of info provided on labels helps display showmanship.

District to Dist. or **Province to Prov.** or **Mountain to Mtn.**

b. The locality of origin, with all available information. The name of the mine, mining district, etc., is desirable but not mandatory. Deductions will be made for any errors in information.

c. Essential constituents and chemical formulas are not required as they can be very long and take up quite a bit of space on label.

d. Self-Collected exhibits should have place card that identifies specimens in case as such. Do not include on label or judging sheet.

e. Deductions for labeling errors will be made for misinformation or misidentification, illegibility, incorrect spelling, and/or lack of required information. Lack of diacritical marks shall not constitute an error.

RARITY: Rarity will primarily be determined based on a species' natural abundance. Secondarily, the judge(s) may or may not award points for specimens exhibiting rare color, crystal size or some other characteristic exceptional for that species.

SHOWMANSHIP: Refers to the ability of the exhibitor to use the specimens exhibited, arrangement, and labels (size, neatness, etc.) to create a display which will attract and hold the interest of the viewer.

WORKMANSHIP AND ORIENTATION: Refers to freedom from excess material and skill in preparation and presentation. Repairs are allowed but manufactured, altered, or enhanced specimens will be ruled out-of-class. Judges may use UV light to verify.



RULES FOR MINERAL EXHIBITS - Continued

GENERAL INFORMATION

- a. **General Classes:** Duplication of species or variety of species is permitted but limited to not more than three specimens - different localities, different crystal habit, association, etc. must be evident.
- b. **Pseudomorphs:** Replaced and replacing minerals shall be considered as a unit duplication shall be charged only when there is duplication of a unit.
- c. Lapidary treatment is not allowed on mineral specimens.
- d. Repaired specimens shall be allowed only under the following circumstances.
 - i. The label shall note the specimen is repaired. The exhibitor may include additional information about the repair on the judging sheet.
 - ii. The repair shall be simply one of a crystal being glued back together or back onto the matrix.
- e. Disallowed (out-of-class) specimens:
 - i. Synthetic, reconstituted, or oiled specimens.
 - ii. Minerals embedded in plastic or surfaces coated with added material.
 - iii. Cracks or gaps that have been filled with any type of material.
 - iv. Matrix that has been altered or added to.
 - v. Repaired specimens not noted on the label.
 - vi. Minerals pressed into a base to meet size requirements.
 - viii. Crystal faces with lapidary treatment.

Procedures for Mineral Judging: The judging procedure used by **TGMS & MSA** are designed to provide maximum feedback to the exhibitor on the quality of the minerals, as viewed by the judges. Point scores will be awarded in the following manner:

QUALITY:

Each specimen will receive an individual score based on a 1 to 10 index. In descending order the rating system is as follows:

SCORE COMMENT

- 10 Excellent.** Specimen is as good as the best specimens of the same size in museums or private collections that the judge has seen.
- 9 Very Good.** Better specimens known to the judge in museums or private collections
- 8 Good.** Nice specimen comparable to the average in good private collections or museums.
- 7 Fair.** Numerous better specimens exist in good private collections or museums.
- 6 O.K.** Not as good as most specimens in private collections. Upgrading suggested.
- 5 Inferior.** Specimen is not quite competition quality, but useful for study purposes
- 4-0 Inadequate.** Specimen is definitely not competition quality. **No crystals**



2020 Membership Dues

2020 DUES WILL BE DUE STARTING IN OCTOBER THANK YOU FOR YOUR MEMBERSHIP

RENEWING & NEW MEMBERS:

Existing and New Members can renew and Join Us at msaaz.org, under “MSA CLUB” tab, click on “*Smiley Face*” or “*Joining Hands*” and pay via **PayPal**. You may also bring membership application & dues to next meeting and give to Membership Chair, Ron Ginn or mail to Membership Chair at following address:

**MINERALOGICAL SOCIETY OF ARIZONA
MEMBERSHIP CHAIR
691 N. VELERO ST.
CHANDLER, AZ 85225**

Membership questions can be emailed to Membership Chair, Ron Ginn at: MSAClub1935@msaaz.org.

ANNUAL DUES AND FEES:

Single Adult (18+): \$24.00 (Annual: Jan 1 - Dec 31)
Couple: \$36.00 (Annual: Jan 1 - Dec 31)
Junior (Under 18): FREE (With Parent or Guardian Adult Membership)
Legacy Life Members: FREE (After Initial Payment)

BENEFITS OF MEMBERSHIP: Field Trips, Monthly Programs (programs include; Visitor, Junior Adult and MSA Name Badge Raffles, Future Rockhounds of America Junior Program, Refreshments, Silent Auctions, Buy/Sell/Trade Events), Flagg Gem & Mineral Show, **Discounts at Minerals of Arizona Symposium and University of Arizona Gem & Mineral Museum**, Pinal Gem & Mineral Show, Gilbert Mineral Sale, Arizona Coalition of Rock Clubs Field Trips, The Rockhound Record Newsletters email pdf copy, Holiday Jamboree and Mineralogical Society of Arizona, Flagg Gem & Mineral Show and Tucson Gem & Mineral Show® Thumbnail Mineral Competitions.



Page 13 Editors Corner
Chris Whitney-Smith, Editor



Rice Museum of Rocks & Minerals

26385 NW Groveland Dr., Hillsboro, OR 97124

Phone: (503) 647-2418

<https://ricenorthwestmuseum.org/>

To learn more about origins of "The Alma Rose"
Rhodochrosite and Sweet Home Mine, please visit following:

<https://www.collectorsedge.com/t-sweethome1.aspx>



RHODOCROSITE MnCO_3 , calcite CaCO_3 , quartz SiO_2 , tetrahedrite $\text{Cu}_4[\text{Cu}_4(\text{Fe,Zn})_2]\text{Sb}_4\text{S}_{13}$, "The Alma Rose," 46.5cm, Sweet Home Mine, Alma, Park County, Colorado, USA; Rice Museum of Rocks & Minerals Collection, © Chris Whitney-Smith.



THE ROCKHOUND RECORD

Please send inquires regarding The Rockhound Record to:

Mineralogical Society of Arizona, Editor

Chris Whitney-Smith

P.O. BOX 54307

PHOENIX, AZ 85078

ask.chrisws@msaaz.org

(602) 405-1502

*** Deadline to submit RR bulletin content is 19th each Month ***

*** We will be grateful to all those who will point out errors of any kind, including typos.**

*** Please email your corrections to ask.chrisws@msaaz.org**

2019 TRONA GEM-O-RAMA CANCELLED

On August 6th Searles Valley Minerals Inc. (SVM) notified the Searles Lake Gem & Mineral Society that the strong earthquakes on July 4th and 5th damaged their facilities to such an extent that SVM will not be able to host any Gem-O-Rama activities on their properties during this year's gem show, which was scheduled for Oct 12th-13th. The SVM exclusion includes all access to Searles Lake to collect saline minerals, including Searles Lake pink halite, which is the highlight of this event, and all tours through their manufacturing facilities. Because these activities form the backbone of the show, the Society had no choice but to cancel the 2019 Trona Gem-O-Rama.

Trona and Searles Valley were hit hard by the Ridgecrest earthquakes: both the 6.4 magnitude on July 4th and 7.1 magnitude on July 5th were centered in the mountains west of the town and many buildings in Trona were damaged, some beyond repair. Needless to say, they have a lot of recovery ahead. We sincerely hope they are able to rebuild their homes, lives, and businesses quickly!

Credit: BAM September 2019 Newsletter





2020 Board Nominations, 2019 Hall of Fame, 2019 ROTY



2020 MSA Nominating Committee Chair Dr. Nathan Scholten to lead committee to nominate Officers & Board of Governors. The committee will convene in September to interview current officers & board governors to develop slate of 2020 Candidates for Board review. Election of 2020 Officers & Two Board Governors will be held at December Holiday Jamboree.



2019 Mineralogical Society of Arizona Hall of Fame Committee consisting of MSA Secretary, Treasurer, Vice President and Two Board Governors review nomination forms through end of September annually to determine a Hall of Fame Inductee.

Award is for MSA Members who have provided conspicuous service to Mineralogical Society of Arizona.

In order to preserve the high honor of MSA Hall of Fame award, there will be years MSA will not have nominees who have attained a level of conspicuous service or longevity of service and are not ready for MSA's highest honor and in these cases, I encourage membership to vote for such members for MSA Rockhound of the Year Award.

Nomination Form can be found on MSA website, under **Hall of Fame** tab. Please complete nomination form and submit to Mineralogical Society of Arizona, Hall of Fame Committee, 5533 E. Bell Rd., STE 101, Scottsdale, AZ 85254 or email completed form to MSAClub1935@msaaz.org no later than September 30th, annually. Award bestowed at December Hall of Fame Induction Ceremony.

Thank you in advance for bringing fine nominees to our attention to help make the award a viable honor to bestow.



Please start thinking about who you would like to nominate for 2019 Rockhound of the Year. Our reigning ROTY is Steve Kaminski. MSA is hard at work contacting vendors and individuals for prize donations. If you would like to help, please contact Chris or Steve.

MSA like other volunteer organization is only as great as its amazing volunteers and MSA has some Amazing Volunteers! **THANK YOU ALL!**

Here are Candidates so far:

- ◆BOB HOLM
- ◆RON GINN
- ◆CARLIE MURPHY
- ◆SHIRLEY FISKE
- ◆MAGGIE LYONS
- ◆WYATT BUSBY—Junior

The Mineralogical Record | Mineral Collections in Arizona-II

Chris Whitney-Smith



The Mineralogical Record invited Arizona collectors to participate in another Arizona publication **Mineral Collections in Arizona-II** to include museum collections as well as private collections.

Mineral Collections in Arizona-II (January-February 2020) supplement to **The Mineralogical Record** will feature following chapters:

1. **Arizona's Young Mineral Collectors** chapter has (8) pages, a historic featuring of (7) Mineralogical Society of Arizona (MSA) competition oriented junior mineral collectors; **Erika Brown, David Tibbits, Harris Kominski, Wyatt Busby, Max Kaminski, Mason Kaminski and Maggie Lyons**. Special thanks go to Arizona Mineral Minions, MSA and the following benefactors without whom this historic young mineral collectors chapter would not have been possible: Wendell Wilson, Bob Jones, Jeff Scovil, Chris Whitney-Smith, Alex and Laura Schauss, Karen Hruby, Mark Hay, Ken Moffitt, Paul Harter, Les and Paula Presmyk, and Steve and Rita Maslansky.

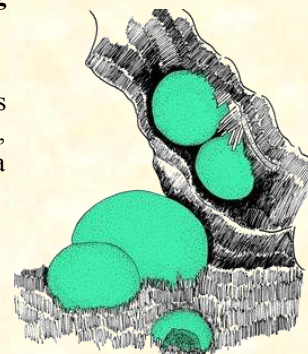
MSA youth mineral collector participation in **Mineral Collections in Arizona-II** will serve as a driving motivation to stay with mineral collecting as juniors will be confronted with many diversions as they grow up. Each youth has one-page introducing themselves to mineral community and establishing them as future of our hobby. Alexander Schauss and Chris Whitney-Smith wrote forward to **Arizona's Young Mineral Collectors** chapter and each youth page includes (3) thumbnail mineral photos by Jeff Scovil, Bio photo and Bio about when they got started, club affiliations, what influenced them to stay with mineral collecting, and what efforts they have made to demonstrate an interest in the form of participation in field trips, shows, club meetings, exhibiting their collection (and where: Mineralogical Society of Arizona, Flagg Gem & Mineral Show, and Tucson Gem & Mineral Show), parental support, and being open to mentorship. Their stories reveal characteristics instrumental in facilitating interest in minerals and mineralogy at a young age and we hope will inspire an excitement for minerals in others as well.

2. **Mineralogical Society of Arizona** chapter has (8) pages featuring club, MSA mineral collections unique Fat Jack Smoky Quartz and Amethyst, Mineral Species Named in Honor of (4) MSA members; Bob Jones, Raymond Grant, Ron Gibbs and Joe Ruiz and minerals from (13) member collections; Bob Jones, Raymond Grant, Jeff Scovil, Les Presmyk, Chris Whitney-Smith, Alexander Schauss, Eric Putman, Dawn Boushelle, Ken Rippere, Stan & Sue Celestian, Dennis Menard and Ken Moffitt.

3. **Pinal Geology Museum & the John Weber Collection** chapter has (2) pages featuring museum and late MSA Honorary Life Member John Weber. Chapter sponsored by **Mineralogical Society of Arizona** and **Flagg Mineral Foundation**.

4. **Members of the Flagg Mineral Foundation** chapter has (10) pages featuring club and minerals from (15) member volunteer collections; Mike Williams, Chuck Kominski, Sue & Stan Celestian, Dawn & Don Boushelle, Chris Whitney-Smith, Joseph Philpott Jr., Bill Yedowitz, Les & Paula Presmyk, Lavone Archer, Jeff Johnson, Phil Richardson, and Dana Slaughter.

To learn more about or subscribe to **The Mineralogical Record**, please visit following link:
<https://www.mineralogicalrecord.com>



MSA June 13th Meeting Highlights.
Steve Kaminski & Chris Whitney-Smith



MSA Future Rockhounds of America (FRA) Junior Meeting facilitated by MSA/FRA Chair Dr. Nathan Scholten.



Junior raffle drawing and winners below; Sam & Colton.



All Photos
by Steve Kaminski



MSA June 13th Meeting Highlights - Continued.

Steve Kaminski & Chris Whitney-Smith



Mike Fleeman program "Pieces of Time: A Look at Natural History" All Photos by Steve Kaminski





MSA June 13th Meeting Highlights - Continued.

Steve Kaminski & Chris Whitney-Smith



All Photos by Steve Kaminski



Chris presents Mike with Certificate of Commendation for his presentation and mentions MSA will make a field trip to LGF Gallery on Saturday, September 21, for gallery tour, potluck and special presentation by Bob Jones on "The Quartz Minerals."

Mike will debut his rare pachycephalosaur and bring out his bear dog fossil, scariest thing on earth, to which (Bob Jones states that Mike has "not seen my mother-in-law").





MSA June 13th Meeting Highlights - Continued.

Steve Kaminski & Chris Whitney-Smith



**Carlie & John Murphy setting up refreshments in kitchen.
Thank you, Murphy village for all you do!!!
MSA Member raffle winner (Dr. Jabulani)
Guest raffle winner (DaNel Hogan, Director of the STEM-AZING Project, Tucson)**



**Pleased MSA Name Badge Raffle Winners; Sam & Heather.
All Photos by Steve Kaminski**



MSA June 13th Meeting Highlights - Continued.

Steve Kaminski & Chris Whitney-Smith



Bob Jones Rock&Gem article on MSA Video Archive Project.
MSA Name Badges for pick up at June meeting.
All Photos by Steve Kaminski



Vintage paper with Earthrise over Moon, Apollo 11 July 1969 Moon mission.
MSA Silent Auction Table.



MSA June 13th Meeting Highlights - Continued.

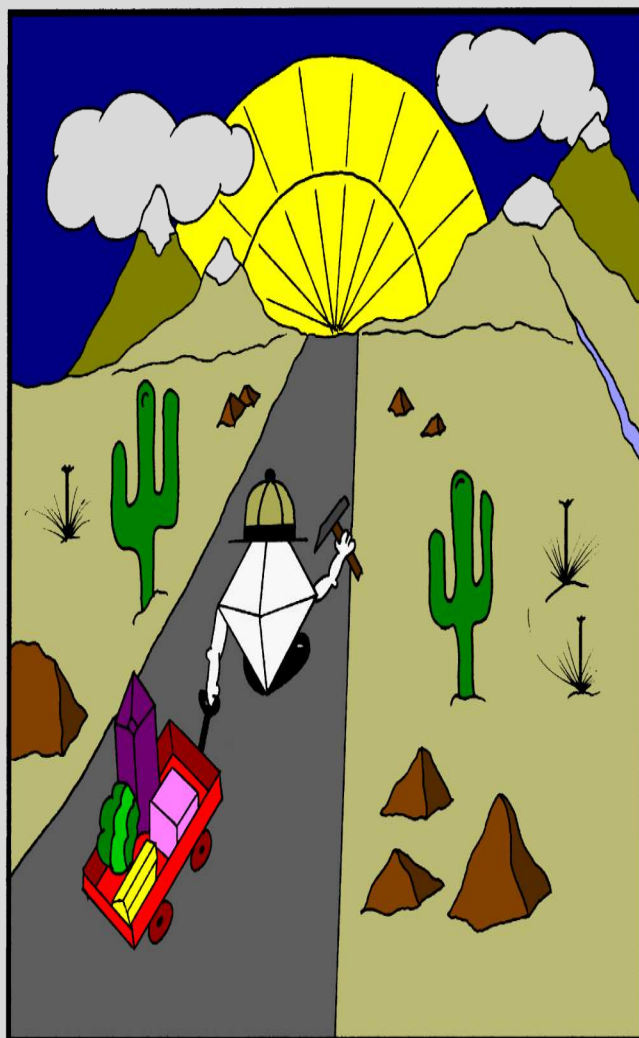
Steve Kaminski & Chris Whitney-Smith



Mike Fleeman collection of fossils, meteorites, lunar masses, early human tools, and roman & byzantine weapons.
All Photos by Steve Kaminski



MSA Master of Cheer and Raffle Guru Bob Holm having
Richard Brundige help pick a winning raffle ticket.



As the pyrite sun sets, Diamond Dan is
grateful for another fine day of digging!



SEPTEMBER 19, 2019 PROGRAM

Presented by Dr. Peter Megaw, Ph.D. Geology University of Arizona

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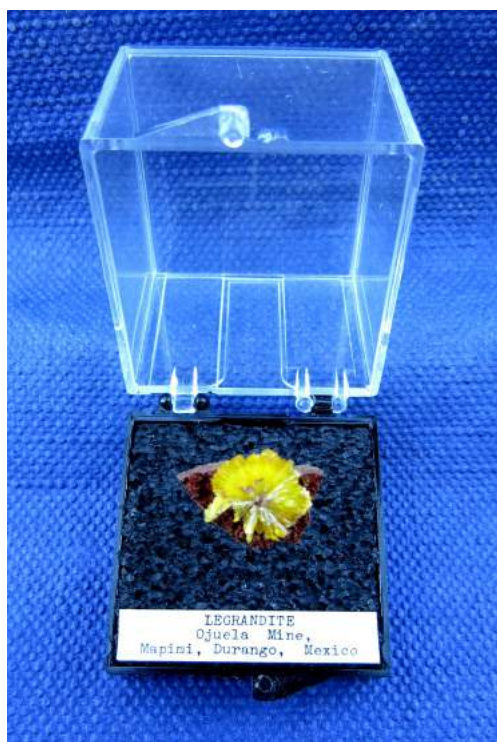


DR. PETER MEGAW

1977. He moved to Tucson in 1979 and quickly joined the Tucson Gem and Mineral Society, serving in most roles (except Treasurer) over the years. He took on the job of Exhibits Chair for the Tucson Show in 1984, a job he has kept for most of the last 35 years, giving him the opportunity to visit most of the world's major mineral museums with a special eye out for what they should bring to Tucson. His mineral collecting has come to focus almost exclusively on Minerals of Mexico, and he has spoken and written extensively on specimen localities there; most recently an in-depth article for Mineralogical Record on the Santa Eulalia Mining District in Chihuahua, Mexico. He is also a contributing editor for Rocks and Minerals and co-authored a paper on Mexican Daylight Luminescing Hyalite Opal in the September 2018 issue. In his spare time, he collaborates on studies of silver isotopes in silver minerals, is Mindat's photo-moderator for submissions on Mexico and co-moderator of the FMF Mineral Forum, often with tongue planted firmly in cheek. A combination of the above led him to be awarded the Carnegie Mineralogical Award for 2009.

Our September 19th program will be presented by Dr. Peter Megaw on "Immortality, Willard Perkin, Mexican Mines and Yogi Berra." Yogi Berra famously said "When you come to a fork in the road, take it"... an apt metaphor for the delightful side-trips that crop up occasionally in a collector's life. In this case, a casual FMF posting about a pretty legrandite thumbnail from the Ojuela Mine, mounted and sold by the late mineral dealer Willard Perkin led to a journey down the rabbit-hole of the ubiquitous "Perky Box". The universality of these little boxes confers a degree of immortality on Perk and it behooves collectors, especially those who focus at the smaller (but still visible) end of the specimen spectrum, to appreciate Perk's contributions to our hobby. Fortunately, Perk got around Mexico a lot, so we'll climb out of the box and see that the rabbit hole detour comes out in several well-known mineral localities, whose history, scenery and minerals we will visit in some detail.

Dr. Megaw is a Consulting Geologist (PhD UofA), President of IM-DEX/Cascabel and co-founder of MAG Silver and Minaurum Gold. Peter has been a passionate mineral collector since first setting foot in Santa Eulalia in



LEGRANDITE $\text{Zn}_2(\text{AsO}_4)(\text{OH}) \cdot \text{H}_2\text{O}$, 1cm, Ojuela Mine, Mapimi, Durango, Mexico. Peter Megaw Collection and Photo. Legrandite TN mounted and sold by Willard Perkin. This is the specimen that touched off renewed interest in Perk and Mexico.



SELENITE (Gypsum) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$, 2.8cm, Santa Eulalia, Chihuahua, Mexico. Peter Megaw Collection & Photo Gypsum "ram's horn" example of a larger Perk mount...but again Mexican and Santa Eulalia to boot!



Mineral of the Month: GOETHITE $\alpha\text{-Fe}^{3+}\text{O(OH)}$ By Dr. Ray Grant and Chris Whitney-Smith

Mineral of the Month for September is goethite, iron oxide hydroxide, FeO(OH) . It is orthorhombic but crystals are rare. It is usually reniform, botryoidal or stalactitic masses, often with a fibrous appearance. The color is blackish brown, reddish brown, and yellowish brown. It can also be fine-grained to powdery and the name limonite is used by many collectors and geologists for this material. Limonite is not a valid mineral name and usually refers to goethite, but there are two other minerals with the same formula, lepidocrosite and feroxyhyte that can also be limonite. These minerals and hematite form from the weathering and oxidation of earlier iron bearing minerals. The streak color is one of the best ways to identify goethite. It has a brownish yellow to yellow streak, hematite has a reddish brown to red streak, and lepidocrosite has a dull orange streak. Feroxyhyte has not been reported from Arizona.

Goethite is a common mineral in Arizona with about 133 localities listed in mindat.org but there are many more localities. It commonly is part of the residue left near the surface after the oxidation of sulfides like pyrite. This forms the leached cap, oxidized capping, or gossan (iron hat) of most ore deposits in Arizona. Gossans are typically siliceous, rocks consisting of altered original rock with mixtures of secondary iron oxides. The old-time prospectors would look for the gossans and dig there to find the richer deposits below.

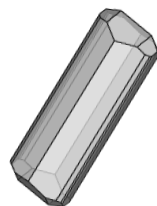
Unknown minerals for identification can still be brought to the meetings.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ with Quartz, SiO_2 , 8.7cm,
Lake George, Park County, Colorado, USA. Barb Muntyan Collection,
Jeff Scovil Photo.



**GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ on
Quartz, SiO_2 ,
6.7cm, Morocco.**
Green Mountain
Minerals Collec-
tion, Jeff Scovil
Photo.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, 12.7cm, Bollnbach Mine,
Herdorf, Siegerland, Rheinland-Pfalz, Germany.
Norbert Stoetzel Collection, Jeff Scovil Photo.



**GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ with Microcline
 $\text{K(AlSi}_3\text{O}_8)$ and Quartz, SiO_2 , 4.5cm, Rosa
Claim, Teller County, Colorado, USA. Pollister
& Albicelli Collection, Jeff Scovil Photo.**



Mineral of the Month: GOETHITE $\alpha\text{-Fe}^{3+}\text{O(OH)}$ - Continued



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, Silver Hill, Pima County, Arizona, USA. Ray Grant Collection & Photo.



Streak for hematite and goethite.
Ray Grant Photo.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ after Calcite, Helvetia, Pima County, Arizona, USA. Ray Grant Collection & Photo.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ after pyrite, Washington Camp, Santa Cruz County, Arizona, USA. Ray Grant Collection & Photo.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, after pyrite, Chillito Mine, Gila County, Arizona, USA. Ray Grant Collection & Photo.

GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, Flux Mine, Santa Cruz County, Arizona, USA. Ray Grant Collection & Photo.





Mineral of the Month: GOETHITE $\alpha\text{-Fe}^{3+}\text{O(OH)}$ - Continued



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, 6.7cm, Pfannenberger Einigkeit Mine, Salchendorf, Neunkirchen, Siegerland, Nord Rhein-Westphalen, Germany. Becky Sterbentz Collection, Jeff Scovil Photo.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$ on quartz, SiO_2 , 9.5cm, Bollnbach Mine, Herdorf, Siegerland, Rheinland-Pfalz, Germany. Norbert Stoetzel Collection, Jeff Scovil Photo.



GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, 13.7cm, Spain. Kerry Cooper Collection, Jeff Scovil Photo.



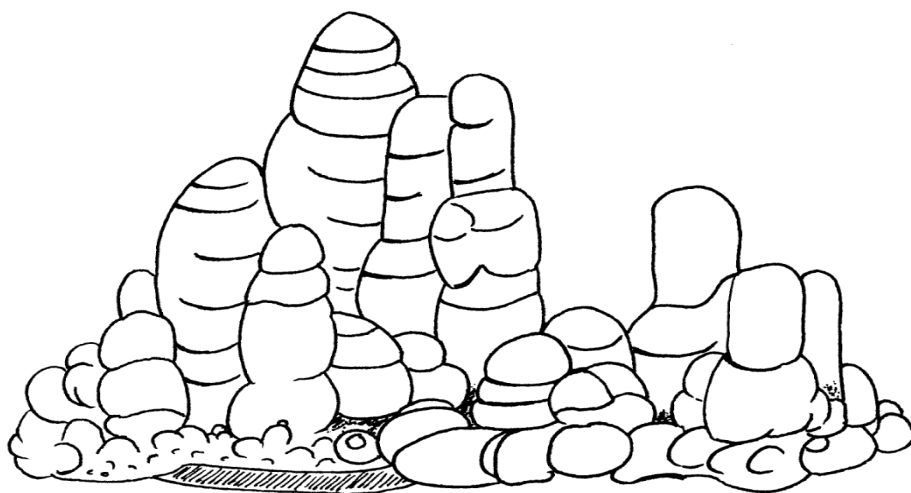
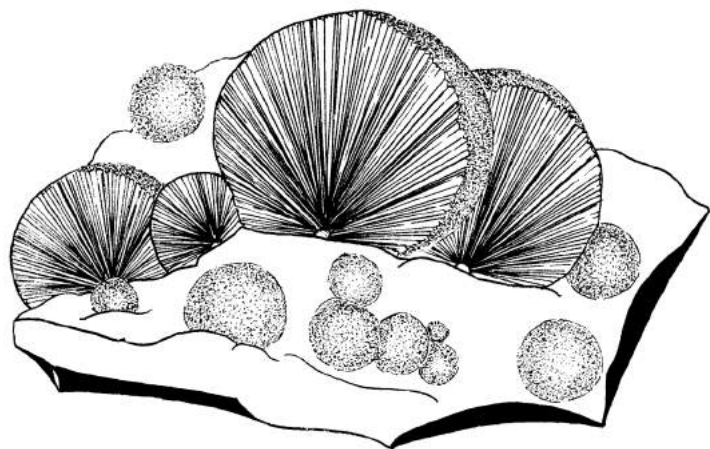
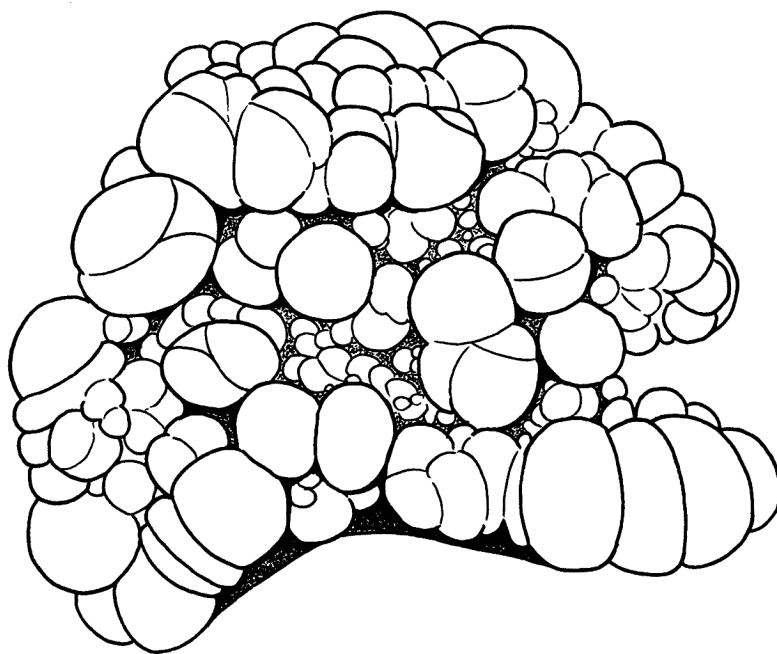
GOETHITE, $\alpha\text{-Fe}^{3+}\text{O(OH)}$, 11.2cm, Graves Mountain, Lincoln County, Georgia, USA. R & S Jackson Collection, Jeff Scovil Photo.



Mineral Color Book Page

Print out this
page to color
in Minerals
and bring to
next meeting
for an extra
blue raffle
ticket.

Your Name



Arizona Mining, Mineral and Natural Resources Education Museum (AMMNRE) News

Update August 2019

Hi AZ MM&NREM Friends and Supporters,

Building improvements continued this past month with A/C and roofing as the primary focus. Roofers cleaned the roof and applied a new light-colored rubber coating, which looks great and will ensure no leaks for the next several years. The upgraded security system is coming soon, so it is finally time to mobilize for our next project: the mineral collection move!

We have decided to begin this large-scale move from the Arizona Historical Society's AZ Heritage Center in Tempe to our building on Washington St. in early September, with a goal of moving everything back to our building by the end of the month. It will consist of multiple steps, starting with clearing material in the classroom to make space for staging. We will then move the gift shop and non-accessioned educational material out of AHS, followed by the accessioned mineral collection. Once everything is relocated to the museum, we will sort the boxes and specimens into the correct cabinets and storage areas in the basement. While we will be employing a moving company for the heavy lifting, we need volunteers to assist at all stages of this process, including clearing space, preparing specimens and boxes, directing movers, and organizing inventory.

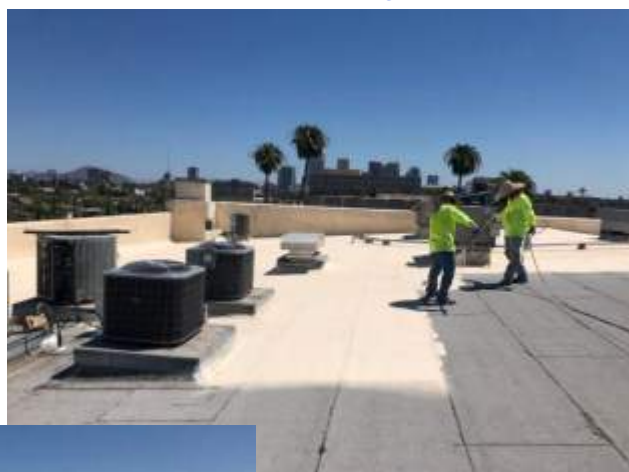
Volunteer opportunities and scheduling for this move will be announced via the Monday Crew email list starting the first week of September. If you do not receive Monday Crew updates and would like to help out, please ask Catie (cscarter@email.arizona.edu) to be added as Charlie (minercon@aol.com) is on vacation.

Also, mark your calendars for Saturday, October 26th – our first public event and stamp mill run. This will be a casual outdoor event and meet and greet for volunteers and friends of the museum. All are welcome to attend. More info coming soon!

Thanks to all for your continued support, and see you during the move in September.

Regards,
Catie Carter Sandoval
cscarter@email.arizona.edu
703.577.6449

<https://ammnre.arizona.edu/>
<http://tinyurl.com/SupportMM-NREMuseum>



Roofers applying rubber coating to the roof.



The finished product, a new light-colored roof with brand new coating.

If you would like join in the next time there is a call for volunteers at the next museum workday, please contact Charlie Connell at minercon@aol.com or Catie Carter Sandoval cscarter@email.arizona.edu.



THE ARIZONA
GEOLOGICAL
SURVEY



Flagg Mineral Foundation and Earth Science Museum



MARK YOUR CALENDARS:

**48th Annual 2020 Flagg Gem & Mineral Show
(Friday-Sunday, January 3rd, 4th, 5th, 2020).**

Show Theme "Arizona Volcanics"

Mesa Community College
1833 W Southern Ave
Mesa, AZ 85202

Flagg Show is an informal tailgate format offering a low cost venue for field collectors and local mineral/lapidary clubs to share their latest finds with children, teachers, Rockhounds, and the general public. One goal of this show is to increase the interest of children in rocks, minerals, geology, and science. Children can become interested in science through minerals, crystals, and fossils, and our hope is to encourage their interest. Several groups will have free samples for children and for teachers and there are free activities as well.

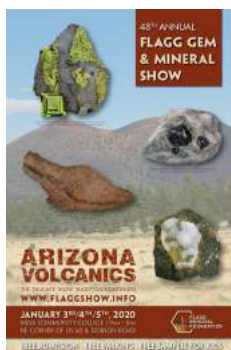
Call for Mineral and Fossil Donations.

The Foundation raises most of our funds through mineral sales, and we currently need donations of quality mineral or fossil specimens. So, if you're running out of space for your collection and/or have some extra specimens that you would like to donate, we would certainly be interested in receiving these items. All donations are tax deductible and a donation letter will be provided! In special cases the Foundation will purchase exceptional specimens or collections. While all contributions are appreciated, we do ask that you help us out by selecting materials that will be suitable for sale to the general public. The Foundation relies solely on volunteers, and with everyone's busy schedules it can be a bit difficult to go through heaps of unfamiliar, unsorted stuff to find saleable items. For more information on making a donation, please contact richardsonutaz@gmail.com.

**28th Annual 2020 Minerals of Arizona Symposium
Friday-Sunday, (Date TBD), 2020**

Show Location: Drury Inn & Suites, 1780 West Ranch Rd. in Tempe, AZ.

Learn More at: flaggmineralfoundation.org



Mission

Our Mission is to excite and inspire all generations about earth sciences through educational outreach.

Vision

We envision a community where students and the general public have curiosity about, passion for, and understanding of the underlying principles of earth sciences.



ESM Outreach Update

**By Mardy Zimmermann,
Outreach and Education Coordinator**

August saw the ESM Outreach Program focused on crushing raw material stored in Forest Lakes and sorting it into pieces to be used for school programs in Payson. Lynne Wheeler and I completed about 35 plastic jars of rock and mineral specimens that will be used for the Rimstones' School Geology Program and the Egg Carton Program for third graders. We used a small cement mixer to wash the crushed material and were pleased to discover that the process also smoothed sharp edges. We have a lot more to crush and sort. Assisting programs by supplying samples will become an important focus for ESM's Outreach Program.

ESM's next board meeting will be at North Mountain Visitor Center, 12950 N 7th St, Phoenix, on Tuesday, September 24, 2019, at 6:30 p.m.



For more information about the ESM, how to become a member or how to arrange for a school visit or Community function, go to: www.earthsciencemuseum.org.



Pinal Geology Museum and Pinal Gem & Mineral Society

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Mineralogical Society of Arizona is a sponsor of annual Pinal Gem & Mineral Show.

The Pinal Gem and Mineral Society meets monthly on the **third Wednesday at 7pm** at the Artisan Village of Coolidge. Museum open at 6:30pm.

Next Meeting: Wednesday, September 18, 2019

Speaker: Ray Grant - "Meteor (Barringer) Crater"



Volunteers have been working one day a week at the Museum and are getting a lot accomplished but there's more to do. Wednesday will continue to be volunteer day for people who can come and help work on collections and exhibits and we will also open the Museum for visitors.

So the Museum will be open to the public Wednesdays (September 4, 11, 18, and 25) from 9 to 2:30 and also every Fridays (starting September 13) from 10 to 2.

New exhibit: a shelf has been added under the wall cases in the meeting room. Our volunteer Joe added lights under the wall cases and Israel and Sam built a shelf for specimens. It looks good, so we will do the same under the other wall cases. This has expanded our exhibit space, but the room is still used for meetings and classes.

Mineralogical Society of Arizona and Flaggs Mineral Foundation sponsored pages featuring **Pinal Geology Museum & the John Weber Collection in Collections in Arizona II** (January-February 2020) Supplement of The Mineralogical Record.

Pinal Geology Museum
Located in Artisan Village of Coolidge
351 N. Arizona Boulevard
Coolidge, AZ 85128

Phone: (480) 655-5760

Email: info@PinalGeologyMuseum.org

Web: pinalgeologymuseum.org

Curator: Dr. Ray Grant

Pinal Gem & Mineral Society
Located in Artisan Village of Coolidge
351 N. Arizona Boulevard
Coolidge, AZ 85128

Phone: (520) 251-5419

Email: info@PinalGemandMineralSociety.org

Web: pinalgemandmineralsociety.org

President: Dr. Ray Grant



Ray Grant photos

Looking for some donations big and small. We have given away hundreds of apache tears to kids and are almost out so if you have some you can donate please do.

We are working on a rock dig for kids next to the building. They will be able to collect some specimens to take home. We will do desert landscaping around the dig area and I would like to add some mining memorabilia. If you have or know someone who has ore carts, ore buckets or other appropriate items that they are willing to donate (tax deduction) please contact me raycyn@cox.net.





MSA FIELDTRIPS

**** MSA HOSTS COALITION FIELD TRIP 4TH WEEKEND IN FEBRUARY ANNUALLY ****

The graphic features the MSA logo on the left, which is a circular emblem with a hexagonal center containing a red crystal, a mountain, and a person on a mule. The text 'MINERALOGICAL SOCIETY OF ARIZONA' and 'EST. 1935' is part of the logo. To the right, the text 'Mineralogical Society of Arizona' is written in a serif font, followed by 'FIELD TRIP' in a large, bold, serif font. Below this, the phrase 'EXPLORE <> SHARE <> INSPIRE' is displayed. At the bottom left is a QR code, and at the bottom right are the website 'web: msaaz.org' and email 'email: FieldTrips@msaaz.org'.

- ♦ **RSVP REQUIRED FOR ALL MSA FIELD TRIPS** fieldtrips@msaaz.org.
- ♦ **IN EVENT LESS THAN (5) MEMBERS RSVP, TRIP LEADER MAY CANCEL TRIP**
- ♦ **PLEASE ALLOW 24 HOURS FOR FIELD TRIP TEAM RESPONSE.**
- ♦ **DATES MAY CHANGE AND TRIPS MAY BE ADDED OR REMOVED**
- ♦ **OVERNIGHT TRIPS COULD ALSO BE DAY TRIPS**
- ♦ **PRINT OUT FIELD TRIP INFO & MAP TO BRING ON MSA FIELD TRIPS**

Important information: MSA membership is required to go on field trips, potlucks and special events. You can become a member at meetings, mineral shows MSA attends, at meet up location for field trips or by downloading membership application from msaaz.org under **MSA CLUB** tab. MSA field trips & events are a privilege of membership; however, MSA is open to joint ventures with other clubs and of course, coalition trips are open to all.

We want to hear from you! Let us know what you think of the trips. How was your experience? Or you could tell us your version of the trip report. Your article or parts of it may be used in the RR, Facebook, on our website msaaz.org or for other promotional purposes.

Please use fieldtrips@msaaz.org for all field trip questions, comments or concerns.

All trip leaders have access to this email account and it will get you the fastest response.



2019 MSA FIELDTRIPS

Date	Location	Minerals	Leader	Vehicle Required	Extraction Difficulty	Site Terrain
January 19-20	Tucson Wash	Wulfenite, Vanadinite	Steve Baker			
February 23 Coalition Trip	Camp Verde Salt Mine	Calcite, Glauberite Ps.	Nathan Scholten	CANCELED	DUE TO	SNOW STORM
March 23	Dripping Spring Mts.	Wulfenite, Pyrite Potluck/Limited RSVP	Eric Putman			
March 31	Seven Springs	Banded Calcite/ Traver- tine & Jasper	Mike Brown			
April 13	Blue Ball Mine	Azurite Nodules	Eric Putman			
April 27	Purple Passion Mine	Wulfenite, Fluorite, Flu- orescents, Micros	Eric Putman			
<u>May</u> 18	Chupacabra Mine	Quartz Var. Chalcedony "FIRE AGATE"	<u>Jeff Craig</u>			
<u>June 14-17</u>	UTAH	Topaz, Bixbyite, Red Beryl, Trilobites RSVP	Joseph Philpott			
July 13-14	Carr Canyon	Quartz	Eric Putman	CAN- CELED	CAN- CELED	CANCELED
September 21	LGF Gallery Scottsdale	Museum Tour / Potluck Bob Jones Talk RSVP	Chris Whitney-Smith			
October 5-6	Planet Mine	Chrysocolla, Malachite, Hematite	Jeff Craig			
October	Trona, Califor- nia	Halite, Hanksite	Joseph Philpott	CAN- CELED	DUE TO	EARTH- QUAKES
October 12-13	Diamond Point	Quartz, Fossils	Mike Brown			
November 2-3	TBD	TBD	TBD			
November 17	TBD	TBD	TBD			
December 14	Spectrum Mine	Fluorite	Joseph Philpott			
December 28-29	Red Cloud Mine	Wulfenite, Fluorescents Sat Potluck RSVP	Eric Putman			
EASY				MODERATE		
2WD				HARD		
				EXTREMELY DIFFICULT		
				HIGH CLEARANCE 2WD		
				4X4		
				HIGH CLEARANCE 4X4		



MSA LGF GALLERY | FIELD TRIP | POTLUCK | PROGRAM

September 21, 2019



Mike Fleeman hoisting Meteorite.
Steve Kaminski Photo



Bob Jones
CWS Photo



Wulfenite, San Francisco Mine, Sonora, Mexico; Mike Fleeman Coll. CWS Photo

TRIP LEADER

Name: Chris Whitney-Smith
Email: ask.chrisws@yahoo.com

MEET UP INFO

Location: LGF Gallery
16621 N. 91st St., STE 105,
Scottsdale, AZ 85260

Date: Sat, Sep 21, 2019
Start: Noon
Potluck: 1:00 PM
Bob Talk: 3:00 PM
End: 5:00 PM

MSA to provide: tea, water, soda,
ice, cups, plates, napkins, utensils

SUGGESTED POTLUCK ITEMS

- Crock Pot Hot Dish (5-6)
- Hawaiian Rolls (1-2)
- Meat platter (1-2)
- Cheese platter (1-2)
- Fruit platter (1-2)
- Potato Chips (2)
- Potato Salad (1-2)
- Macaroni Salad (1-2)
- Salad & Dressing (1-2)
- Deviled Eggs (2-3)
- Pie (1-4)
- Cupcakes (1-2)
- Brownies (1-2)
- Watermelon cut (1-2)

LGF NATURAL HISTORY GALLERY, MSA POTLUCK, BOB JONES TALK SATURDAY, SEPTEMBER 21, 2019

MSA September trip goes indoors for tour of MSA member Mike Fleeman's LGF Natural History Gallery in North Scottsdale and includes MSA Potluck with special program by MSA 1964 President Bob Jones. LGF Gallery is a fantastical oasis in the desert, filled with incredible & rare fossils, meteorites, a staggering collection of petrified plants & wood from every continent, mineral treasures, roman & byzantine weapons, early human artifacts, and a super fun collection of MSA family! **Come join our GAME OF BONES; Dragons Dominion of Earth experience, visit a Dragons Lair and see a Dragon.** **RSVP to join us for LGF Gallery tour, MSA fellowship potluck and special talk by Rock&Gem Sr. Contributing Editor Bob Jones.**

- All vehicles can make this trip!
- **RSVP** required and **Tell Us** what **Potluck Item** you will bring.
- Please **RSVP to** Ask.ChrisWS@yahoo.com
- MSA Membership required.



MSA LGF GALLERY | MAP

September 21, 2019



LGF NATURAL HISTORY GALLERY, MSA POTLUCK, BOB JONES TALK SATURDAY, SEPTEMBER 21, 2019

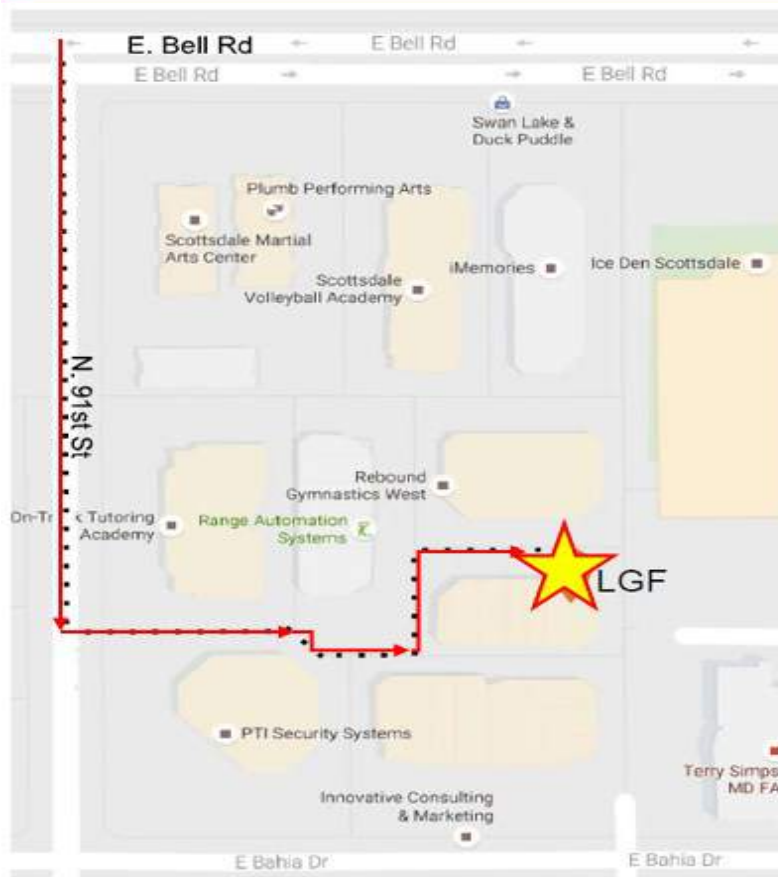


DIRECTIONS

North Scottsdale near Westworld off North Loop 101 freeway,
East on Bell Road to North 91st Street, East through business
district, weave through buildings to 16621 N. 91st St., Suite 105.



Raptor,
LGF Coll.
CWS Photo



DIRECTIONS, PARKING & INFO:

LGF Gallery is tucked within a business district. Call Mike Fleeman 602-550-1152 or Chris Whitney-Smith (602) 405-1502 if you get turned around.

Parking near Suite 105 on side of or behind building. Enter Suite 105 and sign in.



Join our **GAME OF BONES**
experience and see a Dragon.

CWS photo



MSA FIELD TRIP | PLANET MINE

October 5th & 6th 2019



Malachite $\text{Cu}_2(\text{CO}_3)(\text{OH})_2$, 2.9cm,
Planet Mine, Buckskin Mts., La Paz
County, Arizona USA.
Robert Lavinsky Photo

TRIP LEADER

Name: Jeff Craig
Vehicle: Jeep
Phone: (480) 717-9326
Email: fieldtrips@msaaz.org

MEET UP INFO

Location: Rest Stop at AZ-72
and Main (Downtown Bouse)

Date: Sat, Oct 5th, 2019
Time: 9:00AM
Depart: 9:15AM

ACCESSIBILITY

2x4 dirt roads

TOOLS & ESSENTIALS

- Sledge Hammer
- Chisels
- Rock Pick
- Hand Rake
- Small Shovel
- Buckets
- Gloves
- Eye Protection
- Hat
- Sunscreen
- Extra Water



Photo © Dawn Beuchette
Malachite $\text{Cu}_2(\text{CO}_3)(\text{OH})_2$, 2.9cm,
Planet Mine, Buckskin Mts.,
La Paz County, Arizona USA.

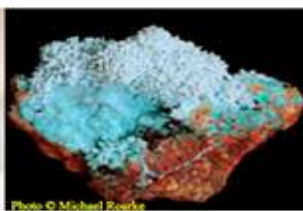


Photo © Michael Reardon
Chrysocolla $\text{Cu}_2\text{-Al}_2(\text{H}_2\text{-}\text{Si}_2\text{O}_5)(\text{OH})_4\cdot n\text{H}_2\text{O}$, 3.5cm,
Planet Mine, Buckskin Mts.,
La Paz County, Arizona USA.



Photo © Dawn Beuchette
Malachite $\text{Cu}_2(\text{CO}_3)(\text{OH})_2$, 2.9cm,
Planet Mine, Buckskin Mts., La
Paz County, Arizona USA.

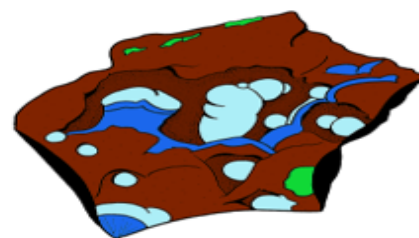
PLANET MINE

OCTOBER 5-6, 2019

MSA heading to Planet Mine to collect Malachite, Chrysocolla, and Hematite with the possibility of finding Barite, Azurite, and other copper/iron minerals. Saturday we will be exploring the planet mine area, and Sunday we will go to the BBC area for hematite. Saturday night we will be camping near the Planet. Come prepared with food, drink, a full tank of gas and other camping needs, as we will be at least an hour from any services. You will want to top off at Vicksburg road and I-10, or at the 1 gas station in Bouse.

Please Note: Overnight is optional. You are welcome to join trip on Saturday at meet up for a day trip. We will not meet up on Sunday.

- Most vehicles can make this trip.
- **MSA Membership Required of All attending**
- Please **RSVP** to fieldtrips@msaaz.org
- Arrive prepared with full tank of gas and good tires
- Optional Overnight Trip or Day Trip on Saturday.





MSA FIELD TRIP | PLANET MINE | MAP

October 5th & 6th 2019

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PLANET MINE

OCTOBER 5-6, 2019

(Overnight is Optional)

DIRECTIONS

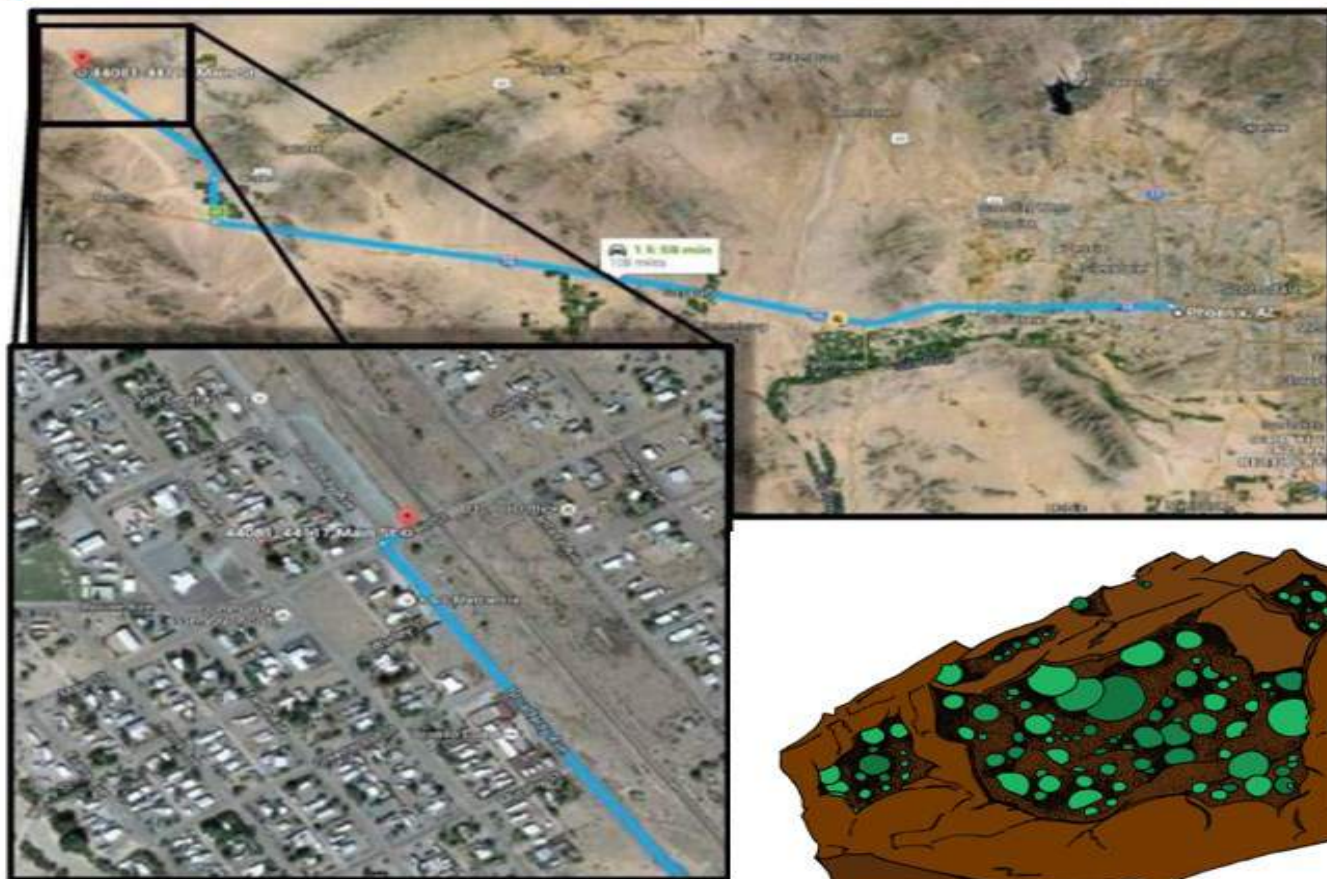
Approx. 1h 58min (128 miles) Total

Follow I-10 West out of Phoenix approximately 99 miles to Vicksburg Road.

Take Exit 45 (Vicksburg Road) and head North.

Turn Left onto AZ-72 and follow approximately 28 miles to Main Street in Bouse, AZ.

We will be meeting at the rest stop next to the railroad tracks, across from the Roadrunner Market





MSA FIELD TRIP | DIAMOND POINT

October 12th & 13th 2019



QUARTZ SiO_2 , Diamond Point, Payson,
Mazatzal Mts., Gila County, Arizona USA.
Lynne Dyer Collection
Chris Whitney-Smith Photo



TRIP LEADER

Name: Mike & Erika Brown
Vehicle: White Pick-up
Phone: (480) 228-4297
Email: fieldtrips@msaaz.org

MEET UP INFO

Location: Circle K
3675 AZ-260, Star Valley, AZ

Date: Sat, Oct 12, 2019
Time: 8:00AM
Depart: 8:20AM

ACCESSIBILITY

Almost any vehicle can
make this trip.

TOOLS & ESSENTIALS

- Rake
- Small Shovel
- Sifter
- Gloves
- Eye Protection
- Rock Hammer
- Extra Water

DIAMOND POINT

OCTOBER 12-13, 2019

MSA October trip heading up into the cool pines North of Payson below Mogollon Rim to Diamond Point on Saturday, October 12th-13th to collect Quartz and possibly fossils on Sunday. We will be camping overnight at Diamond Point and collecting on Sunday as well.

Please Note: Overnight is optional. You are welcome to join trip on Saturday at meet up for a day trip. We will not meet up on Sunday.

- All vehicles can make this trip!
- **MSA Membership Required of All attending**
- Please **RSVP** to fieldtrips@msaaz.org
- Arrive prepared with full tank of gas and good tires
- Optional Overnight Trip or Day Trip on Saturday.



QUARTZ Var Amethyst SiO_2 ,
Diamond Point, Payson, Mazatzal
Mts., Gila County, Arizona USA.
Dunyasha Kampfenkel Collection & Photo



MSA FIELD TRIP | DIAMOND POINT | MAP

October 12th & 13th 2019

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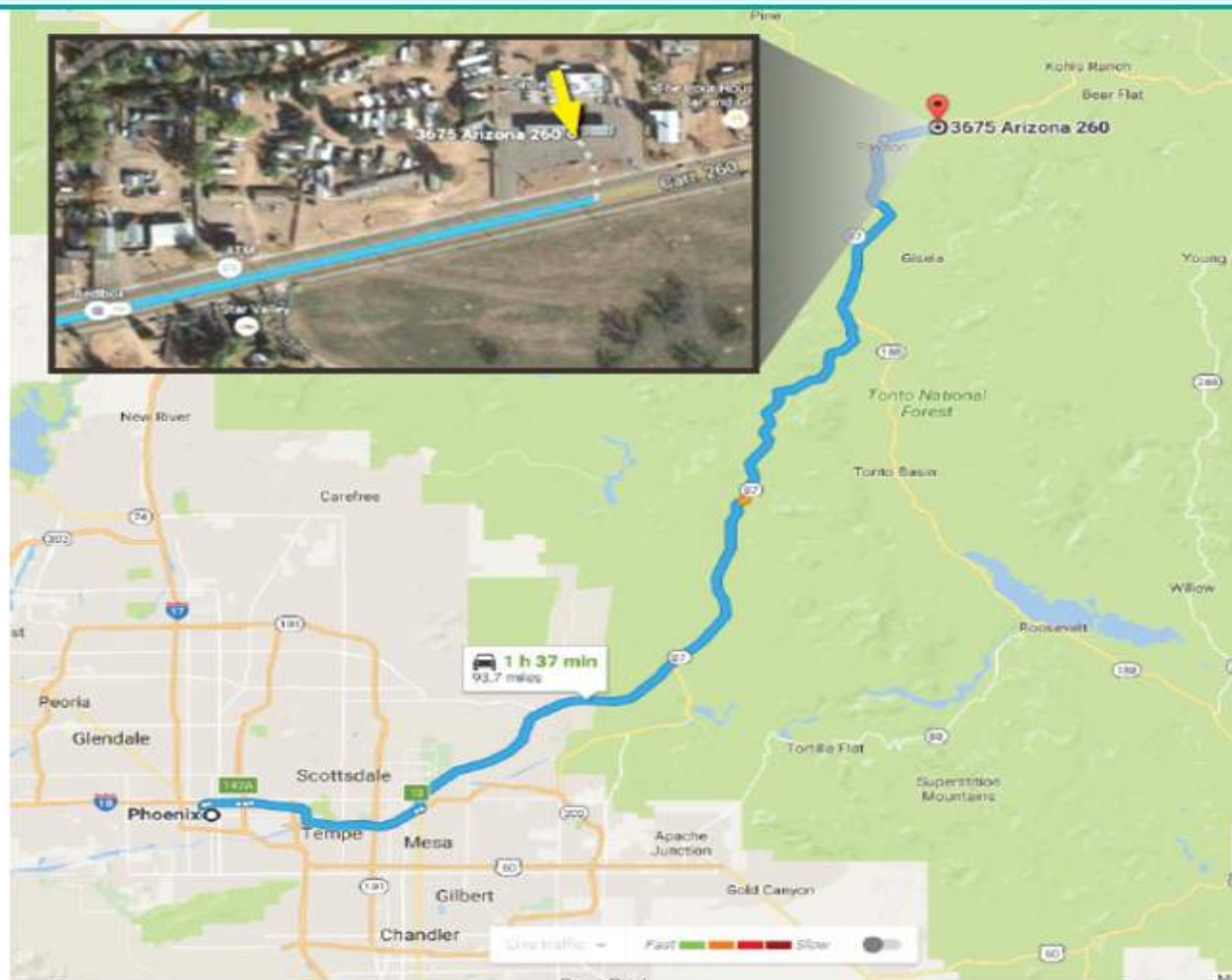
DIAMOND POINT MAP

OCTOBER 12 & 13, 2019

(Overnight is Optional)

DIRECTIONS

North on AZ-87 (Beeline Highway) to Payson, AZ
East on AZ-260 to Circle K, 3675, Star Valley, AZ





MSA June 2019 Field Trip to Topaz Mountain, Utah

By Stan Celestian (Pictures by Stan and Sue Celestian)



The Topaz Mountain Amphitheater - This view is looking northwest, and shows the camping sites and dirt roads that lead into the basin. The buildings near the bottom are part of the Topaz Mountain Adventures claim on a topaz bearing rhyolite dome (just to the right of the buildings).

June 15, 2019 marked the day that the MSA group paid for a blast at Topaz Mountain, UT. Topaz Mountain Adventures has a lease on a rhyolitic dome in the Topaz Mountain Amphitheater and operates a “pay-to-dig” business.

Web site: <http://topazmountainadventures.com/>

By paying for a blast, the club members were able to obtain fresh material in which to find the topaz $\text{Al}_2(\text{SiO}_4)(\text{F},\text{OH})_2$ crystals. An area was set aside for the club members and after the blast, we were allowed into the area with hand tools, as well as portable power tools. The battery-operated hammer drills and feather wedges proved to be quite effective in making big rocks into smaller ones, often exposing pockets containing the sought after gems.

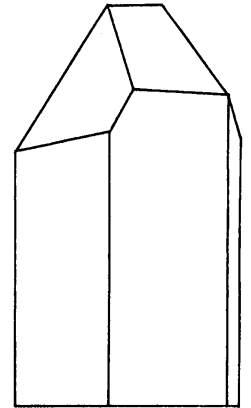
The morning of the event was met with much anticipation by the club members, as well as about 50-75 other Rockhounds (lots of kids with parents). One of the owners of the lease, Rhonda, gave a brief introduction to the area and the blasting event. Her presentation was about where and how to look for the crystals, and full of warnings of what and what not to do.



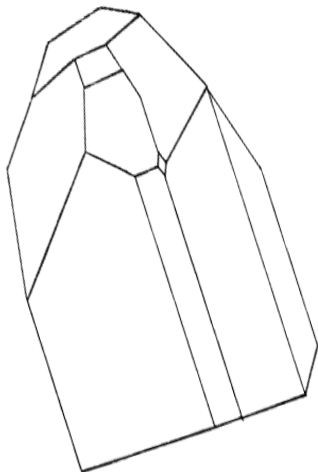
MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)



This is just a few of the anxious rockhounds awaiting the countdown for the blast.



Finally, the explosives were detonated. This blast site is the one in which we were restricted to collecting.



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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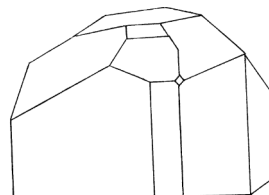
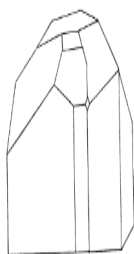
By Stan Celestian (Pictures by Stan and Sue Celestian)

In total there were 3 blasts for three groups. After the blast we were restricted to looking for crystals only in our area. Prior to the blast I had anticipated a larger volume of fresh rock being exposed for collecting. We were only allowed to collect on the rocks that were broken away from the wall and had landed in our area. There were many enticing pockets left on the forbidden walls. To be the first one up to the blasted debris was a huge advantage, as spotting a rock full of pockets was easier without the crowd of collectors to walk and see around. Fortunately, I was able to spot a basketball-sized fresh rock that yielded a few nice crystals.

As you might expect on a south facing, light colored rhyolite, it was **HOT!** But our vehicles were only about 100 yards away, so hiking to the very limited collecting area and obtaining refreshments was not an issue. Busting boulders was the order of the day. The more boulders busted, the greater were the chances of getting rewarded. After I found my initial treasure, within the first 10 minutes on the debris pile, I should have quit and sat in the shade, as I did not find another “keeper” the rest of the day. Definitely disappointing, but after many years of “wild goose chases”, it was something to which I have grown accustomed.



MSA members looking for topaz in the blast rubble. Less than 0.1% of this rubble



These are 3 of the best crystals I collected from the rubble pile on the first day after the blast. All were found in the first few minutes of searching. All 3 were from the same pocket in one boulder. Note the incipient cleavage plane near the base of the first crystal. Care must be taken with topaz crystals during trimming and handling due to this good direction of cleavage.



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)

However, if one just thinks about the adventure of getting out into the fresh air, working like a dog for 4 or 5 hours, getting a bit dehydrated, along with a touch of heat stroke, then the day was a fabulous success.



Topaz crystals before (left) and after (right) exposure to sunlight.

The following day, Father's Day, was full of options. We could go to the pay-to-collect Trilobite spot to look for *Elrathia kingii*, the famous Cambrian trilobites, and perhaps a few other types, or we could venture North to Dugway for a chance to collect geodes, or we could scamper up the side of the amphitheater to look for red beryl, or spend some more money to revisit the topaz collecting rubble. (Sitting around in camp to recuperate was not a viable option.) I chose going back for more pay-to-exercise in the rhyolite rubble to search for yet more topaz. It was a much nicer day, cooler with clouds, and the ability to collect in all of the rubble piles of the previous blast sites was an enticing option that was too hard to pass up. So, yet another day on the rock pile. The impact



drill and feather wedges did come in handy. With more time to look over the rubble, a few larger boulders yielded some crystals. We were told by Rhonda to leave by 7 PM, so, naturally at nearly the end of the collecting day I found, buried in rubble, a very large block with many pockets. Most were filled with the sandy rhyolite, but they were **pockets** ! (Why they were not filled with gemmy topaz was a disappointing mystery.) I worked at an elevated pace and managed to recover several small crystals, some on matrix. I would have liked to return the next day and continue, but knew that I had just about reached my physical limit of exertion, and we had already committed to visit the Bixbite locality. So, maybe next time?



A rhyolite boulder with pockets containing Topaz.



Topaz Bits - When I saw any topaz at all, I picked it up. These pieces will most likely end up in egg cartons.



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)



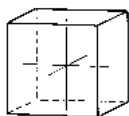
The Bixbyite claim. We were escorted to this spot from Topaz Mountain.



Pseudobrookite spray found at the Bixbyite

Monday, June 17 started off as yet another cloudy and comfortable day. We were escorted to another pay-to-dig spot, about 20 miles North of Topaz Mountain to dig bixbyite $\text{Mn}^{3+}_2\text{O}_3$ and small pinkish topaz at the North end of the Thomas Range. We were also informed that a backhoe had dug in an area to expose fresh material. Upon arriving, the backhoe was there but looking around the rubble near it did not yield any bounty of bixbyite. The collecting was pretty much the same over the debris pile. The best bixbyite crystals I found were simply laying on the surface, probably exposed by a previous rain shower. But, always on the ready to break rocks, and with my wife Susan scouring the debris pile for loose crystals, I began breaking suspicious looking rocks, i.e., those that had pockets. I did find a couple more nice bixbyite crystals doing this and many broken pseudobrookite Fe_2TiO_5 blades. I did get lucky and found an intact spray of pseudobrookite on matrix that I managed to collect. It was the best specimen I collected that day.

As we were leaving, Sue "Googled" a mine we passed on the way in. It turns out it was another pay-to-dig mine called the Solar Wind. It has produced fairly large bixbyite crystals, some approaching 1 inch along a side. Perhaps next time a trip could be arranged to this mine.



A nice, fairly clean and sharp, bixbyite crystal on rhyolite.



Many of the bixbyite crystal were modified cubes. Although this crystal is not the best, it does nicely show the corner of the cube truncated by the trisoctahedral form (the 3 trapezoid faces) and the octahedral face (the reflective small triangle in the middle of the trisoctahedral faces).



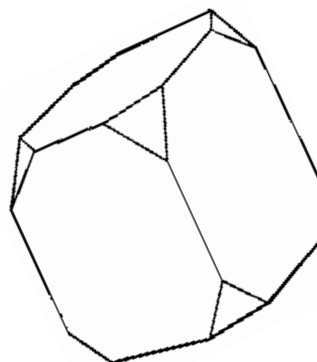
MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)



Bixbyite with corners truncated by the trisoctahedral form, with some scattered "pinkish" topaz crystals.



This is a view of the northwest wall of the Topaz Mountain Amphitheater. Indicated at "A" is a topaz collecting area, and at "B" is a spot where red beryl can be found. A few club members decided to scamper up the side of the mountain to area "B" to collect red beryl. Many small, sandy crystals were found. Joseph Philpott Jr reported finding a nice gemmy red beryl. Perhaps he would be willing to donate it at a future MSA meeting as a door prize...?



This is a close up picture, via DJI Phantom 4 drone, of the red beryl collecting spot. Note the people in the lower left corner and upper center. Now, that looks like real fun.



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)



Image 1: Hammer Drill, Feather Wedges and Rocks

The purpose of the hammer drill is put holes in solid rock. Typically, the harder the rock (like rhyolite), the better it works. Once the appropriately sized hole has been created, a feather wedge does the rest of the job. That job is to make smaller rocks out of bigger ones. Although this process can be done with a sledge hammer, the hammer drill and feather wedges provide more precision as to where the break will take place.

As the name implies, the hammer drill shown in Image 1, is more than just rotary action. It strikes the end of the drill bit to provide a chipping action, as well as the normal drilling process. This results in fast hole creation.

This battery operated drill translates into portability. The drill, batteries, drill bits and feather wedges can be carried to where the crystal-rich rocks hide. For this particular drill and battery, about 100, 9/16" holes, about 4" deep can be drilled into concrete per charge. (So, I carry more than one battery.)

In the field, the drill is used to break fairly large rocks. At the Topaz Mountain Adventures claim, where we had permission to use the drill, rhyolite blocks 2 feet thick were easily split using 4 or 5 holes and feather wedges.

In Image 2, a hole has been drilled into a much smaller rock. The crystal pockets were located on the left side of the rock. Why not just smack the rock with a sledge hammer? That would drastically reduce the chances of recovering the crystals. Who knows where that break would take place, plus the impact of the blow would probably dislodge crystals or even break them.



Image 2: Drilling a Hole in Rhyolite

Once the hole is drilled, the feather wedge is inserted. Image 3 shows that the feather wedge consists of essentially 3 parts - the actual wedge and the 2 sleeves that encase it. The thick rubber holder simply holds the parts of the wedge together, so the parts don't wander off, and it makes it much easier to insert the wedge into the hole. Then using a hammer, lightly tap the wedge into the sleeves - "feathering" the wedge between the sleeves. Sometimes oil can be used to help the wedge move smoothly between the sleeves.



Image 3: Feather Wedges



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)



Image 4: Feather Wedge Inserted

Rocks are strong under compressional forces (think of the forces exerted on the bottom rocks of the Great Pyramids.) But, they are fairly weak under tensional (pull apart) forces. The feather wedge being hammered into the rock is slowly creating a strong tensional force within the rock. Slow hammering allows cracks to develop. To increase the probability of developing a split in the rock where you want it, more wedges should be used. Also, the orientation of the wedge is important. In Image 4, note that the position of the wedge and sleeves. The red arrows show the direction of the tensional (splitting) force being created.

Just a few taps of the hammer creates a split in the rock - fortunately where I wanted it to go, see Image 5. The side of the rock with the crystals in pockets was intact and much smaller. Smaller feather wedges could be used to further isolate the crystal pockets.

With the rock split as shown in Image 6, further reduction of the rock is made much easier. Image 7 shows the resulting slab of rhyolite ready for more precision splitting. Sadly, the split did not reveal a 2" topaz crystal in a hidden pocket.

For a 2 minute 27 second video of the Topaz Mountain Amphitheater that I created, follow this link to my Flickr page.

Flickr Homepage: <https://www.flickr.com/photos/usageology/>

Topaz Mountain Video:

<https://www.flickr.com/photos/usageology/48269807777/in/dateposted/>

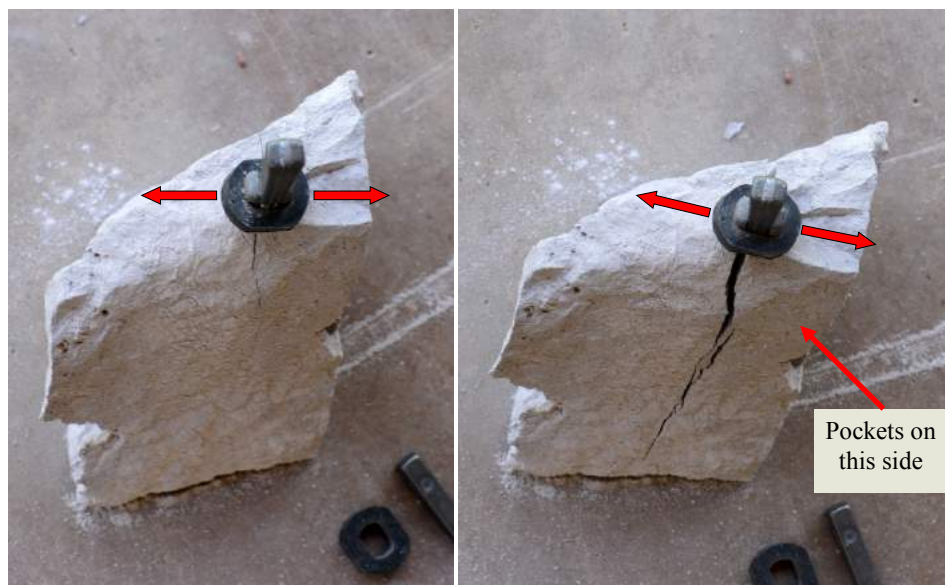


Image 5: The development of a crack created by the hammering of a feather wedge.



Image 6: The Split



Image 7: The Trimmed Rock



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)

PLANT PHOTOGRAPHS BY SUSAN CELESTIAN

June in the Topaz Mountain area is still a good time of the year for photographing wildflowers. Here are a few.



Orange Lichen on a rock near the Bixbyite collecting area.



Thick fleshy flowers were found on this unidentified plant.



Indian Paintbrush



Buckwheat near the campsite



MSA June 2019 Field Trip to Topaz Mountain, Utah - Continued.

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By Stan Celestian (Pictures by Stan and Sue Celestian)



Scorpionweed (*Phacelia crenulata*)



Desert Princess' Plume_ (*Stanleya pinnata*)



Desert Purple Sage (*Salvia dorrii*)



Mohave Popcorn Flower (*Cryptantha confertiflora*)



Upcoming Shows and Events

**Payson Rimstones
22nd Annual Gem
and Mineral Show**



**September 20th
through 22nd, 2019**

**Event Center
Mazatzal Hotel & Casino**
Admission \$3 , Under 13 free
**Hours: Friday 4-8 p.m.,
Saturday 9-5, Sunday 10-4**

The Payson Rimstones Rock Club is a 501c3 Charitable Organization



West Valley
Rock & Mineral Club

Buckeye's 8th Annual
**HELZAROCKIN'
GEM & MINERAL SHOW**

October 11 * 12 * 13 2019
9 a.m. - 5 p.m. Fri-Sat
9 a.m. - 2 p.m. Sun
Adults \$3 - kids under 13 - free

Open Air Event
Buckeye Arena
802 N 1st Street (Miller Road)
Buckeye, Arizona

Rocks, Gems, Jewelry, Minerals,
Fossils, Beads, Slabs, Cabs,
Gold Panning & Scavenger Hunt
Snacks and Beverages Available

Information contact:
show@westvalleyrockandmineralclub.com
website: westvalleyrockandmineralclub.com

Lara: (602) 405-2926
Alice: (602) 329-2519



19th Annual
**Rock, Gem &
Jewelry Show**


October 20 & 21
Sat 10-5 / Sun 10-4

Sedona Red Rock High School - 89A at
Upper Red Rock Loop Rd, W. Sedona

**Hourly Raffles
Grand Prize**
Admission - \$3
Children under 12 - Free



For more information go to:
www.sedonagemandmineral.org



Mingus Gem and Mineral Club
Annual Show & Sale
September 27-29, 2019
Fri. 9-5, Sat. 9-5, Sun. 10-4
Free admission
Clark Memorial Clubhouse Auditorium
19 N. Ninth Street
Clarkdale, AZ



Huachuca Mineral and Gem Club
Annual show
October 12-13, 2019
Sat. 9-5, Sun. 10-4
Free Admission
Cochise College, 901 N. Colombo Ave
Sierra Vista, AZ
http://huachucamineralandgemclub.info/Gem_Show.html

Rock-A-Rama Gem & Mineral Show
November 1-3, 2019
Fri 9-4, Sat 9-5, Sun 9-4
High Desert Park
19001 E. Jacie Lane
Black Canyon City, AZ



48th Annual Flagg Gem & Mineral Show

January 3-5, 2020

Poster By MSA/FMF Member Don Boushelle.

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48TH ANNUAL FLAGG GEM & MINERAL SHOW



Forsterite var. Peridot - Peridot Mesa, San Carlos, Salt Creek Indian Reservation, Gila Co., Arizona, USA
CMT GEM: Don Boushelle - PHOTO: Don Boushelle | MOUNTAIN: Bill Yedowitz - PHOTO: Bill Yedowitz



Obsidian var. Apache Tears - Flagstaff, Mountain area, Superior Mining District,
Pinal Co., Arizona, USA | Don Boushelle - PHOTO: Don Boushelle



Volcanic Bomb - San Francisco Volcanic Field, Cochise Co., Arizona, USA
Bill Yedowitz - PHOTO: Bill Yedowitz



Barro Colorado - Horseshoe Dam area, Maricopa Co., Arizona, USA
Bill Yedowitz - PHOTO: Bill Yedowitz

ARIZONA VOLCANICS

THE TAILGATE SHOW TRADITION CONTINUES!
WWW.FLAGGSHOW.INFO

JANUARY 3RD/4TH/5TH, 2020
MESA COMMUNITY COLLEGE | 9AM - 5PM
NE CORNER OF US 60 & DOBSON ROAD



FREE ADMISSION FREE PARKING FREE SAMPLES FOR KIDS



Wirewrapping Classes

Joanne Hesterman

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WIREWRAPPING CLASS

INSTRUCTOR:

Joanne Hesterman

LOCATION:

Fuddruckers
8941 N Black Canyon Hwy,
Phoenix, AZ 85021
(SE Corner of I-17 & Dunlap)

CLASS DATES:

3rd Saturday every Month.

TIME:

Fuddruckers OPENS: 11:00AM
CLASS HOURS: 11:30AM – 4:00PM (+/-)

COST:

Buy lunch at Fuddruckers.
Great food and good variety.

SUPPLIES:

- * **Bring** jewelry tools if you have them.
- * Joanne will sell wire or bring your own

*** No Contact Info, just show up.**



Joanne Hesterman displaying wire-wrapping crafts.
Photo courtesy of FRIENDS of the ARIZONA MINING &
MINERAL MUSEUM , Volume 3 Issue 1, 1st Quarter 2006.



Examples of wirewrapping;
Chris Whitney-Smith Collection & Photo.



Examples of wirewrapping by MSA Member Sharleen Harvey;
On Exhibit at Rice Museum of Rocks & Minerals,
© Chris Whitney-Smith.



Lapidary Shop and Lapidary & Silversmithing Classes

Doug Duffy

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LAPIDARY WORK SHOP

INSTRUCTOR:

Doug Duffy



Doug Duffy,
Wei Chen Photo.

Doug advised they are in planning stages for a Lapidary Workshop at North Mountain Visitor Center in Phoenix. They have not received all of the machines and have not finalized class and per hour charges yet. He is planning classes for Wed. mornings from 9-12 when they get up and running and that all users will have to be certified by Doug as to proper use of the equipment. Doug expects shop to have 3 Kingsley North stainless steel lapidary machines with 6-6" diamond wheels (pictured) and only one trim saw. No slab saw. Doug will have his Ringleader available that has two 6" wheels; one a 60 grit and one a 600 grit. More info later.

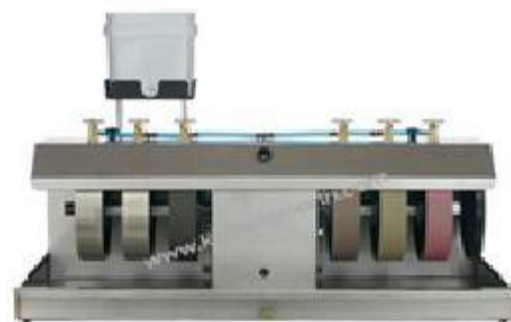
LAPIDARY CLASSES

In The Art of Making Cabochon. Lapidary is the art of cutting and polishing of rocks. In this four week class, you will learn the steps in making a cabochon (a domed stone).

DAY/TIME: Wednesday's from 9AM to 12PM.

COST: \$60 for 12 hours of instruction

(Students limit per class 4)



Kingsley North stainless steel lapidary machine with 6-6" diamond wheels; photo courtesy Doug Duffy.

SILVERSMITHING CLASSES

In the four week class, you will learn to make a ring and a pendant.

DAY/TIME: Saturday's from 8AM to 12PM.

COST: \$150 for 15 hours of Instruction.

(Students limit per class 4)

LOCATION:

NORTH MOUNTAIN VISITOR CENTER

12950 N. 7th ST, Phoenix, AZ 85022

For more information and sign up, please call

DOUG DUFFY, INSTRUCTOR

(602) 973-4291 after 2PM or leave message.



Examples of Silversmithing;
photo courtesy Doug Duffy.

Mineralogical Society of Arizona & Flag Mineral Foundation Mineral Collections on Exhibit at University of Arizona Gem & Mineral Museum. Page 52
Chris Whitney-Smith, Curator MSA Mineral Collection.

When in Tucson, plan to visit University of Arizona Gem & Mineral Museum to view Mineralogical Society of Arizona (MSA), Flag Mineral Foundation (FMF) and several suites of other fine mineral collections.

UA Mineral Museum is located within Flandrau Science Center & Planetarium, 1601 E. University BLVD, Tucson, AZ 85721.

⇒ *MSA & FMF Members have FREE admission to UA Gem & Mineral Museum while our Mineral Collections are on exhibit.*

Hours of Operation:

Monday-Wednesday: 10am - 3pm
Thursday-Friday: 10am - 3pm, 6pm - 9pm
Saturday: 10am - 9pm
Sunday: 1pm - 4pm

MSA signs 10 year loan agreement with UA Gem & Mineral Museum good through November 30, 2024.

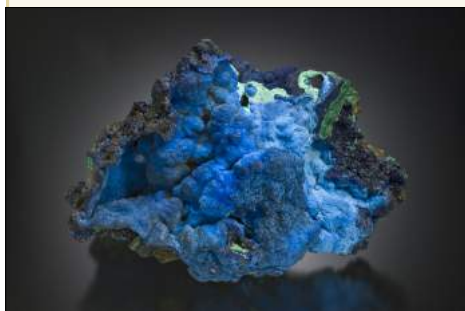
Visit UAMM and check out the many terrific collections on exhibit.

Parking:

Convenient parking available at the Cherry Avenue Garage for a small fee.
Free street & surface parking is available on weekends (game days excluded).

LEARN MORE

msaaz.org
flandrau.org
uamineralmuseum.org
flagmineralfoundation.org



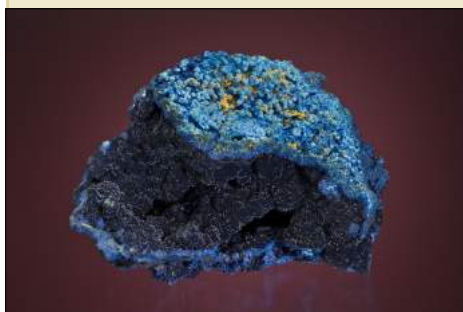
AZURITE, $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$, Bisbee, Cochise County, Arizona, USA; Mineralogical Society of Arizona Collection, © Jeff Scovil.



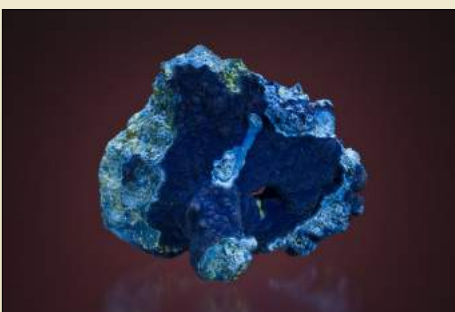
AZURITE, $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$, and **MALACHITE**, $\text{Cu}_2\text{CO}_3(\text{OH})_2$, Bisbee, Cochise County, Arizona, USA; Mineralogical Society of Arizona Collection, © Chris Whitney-Smith.



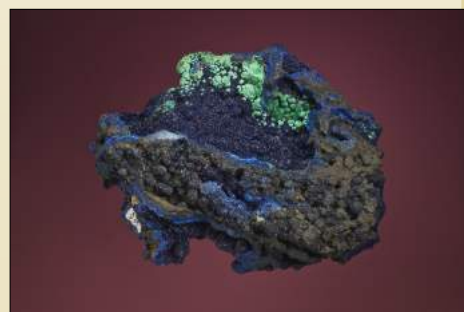
MALACHITE, $\text{Cu}_2\text{CO}_3(\text{OH})_2$, Bisbee, Cochise County, Arizona, USA; Mineralogical Society of Arizona Collection, © Jeff Scovil.



AZURITE, $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$, Bisbee, Cochise County, Arizona, USA; Mineralogical Society of Arizona Collection, © Jeff Scovil.



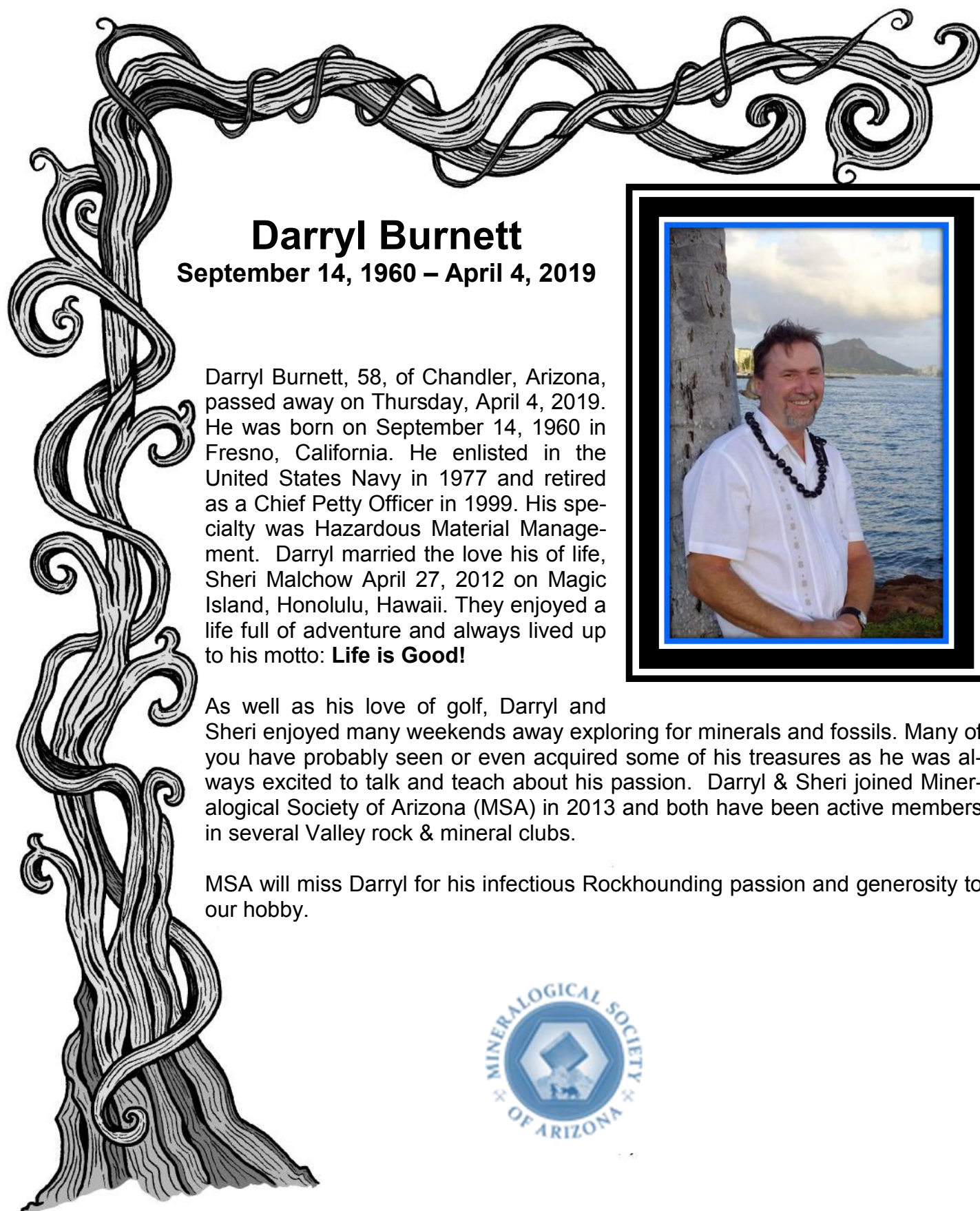
AZURITE, $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$, Bisbee, Cochise County, Arizona, USA; Mineralogical Society of Arizona Collection, © Jeff Scovil.



AZURITE, $\text{Cu}_3(\text{CO}_3)_2(\text{OH})_2$, and **MALACHITE**, $\text{Cu}_2\text{CO}_3(\text{OH})_2$, Bisbee, Cochise County, Arizona, USA; Mineralogical Society of Arizona Collection, © Jeff Scovil.

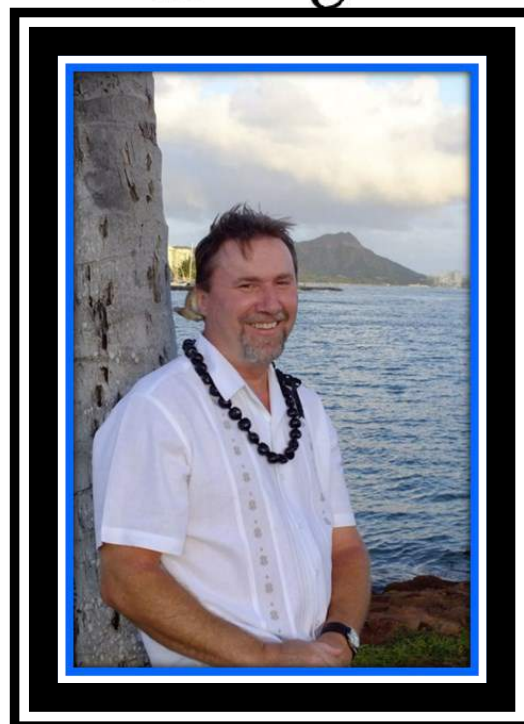


Darryl Burnett Obituary



Darryl Burnett September 14, 1960 – April 4, 2019

Darryl Burnett, 58, of Chandler, Arizona, passed away on Thursday, April 4, 2019. He was born on September 14, 1960 in Fresno, California. He enlisted in the United States Navy in 1977 and retired as a Chief Petty Officer in 1999. His specialty was Hazardous Material Management. Darryl married the love his of life, Sheri Malchow April 27, 2012 on Magic Island, Honolulu, Hawaii. They enjoyed a life full of adventure and always lived up to his motto: **Life is Good!**



As well as his love of golf, Darryl and Sheri enjoyed many weekends away exploring for minerals and fossils. Many of you have probably seen or even acquired some of his treasures as he was always excited to talk and teach about his passion. Darryl & Sheri joined Mineralogical Society of Arizona (MSA) in 2013 and both have been active members in several Valley rock & mineral clubs.

MSA will miss Darryl for his infectious Rockhounding passion and generosity to our hobby.





Betty Lou Deming Obituary



Betty Lou Deming **August 6, 1931 – May 21, 2019**

Betty Deming 87, of Phoenix, Arizona, passed away on Tuesday, May 21, 2019. She was born on August 6, 1931. Betty joined Mineralogical Society of Arizona (MSA) in 1971 and was an active member in society activities as an officer and board member. Betty enjoyed her Scottie dog companions, metal detecting, Rockhounding and was an active member in several Valley rock & mineral clubs.



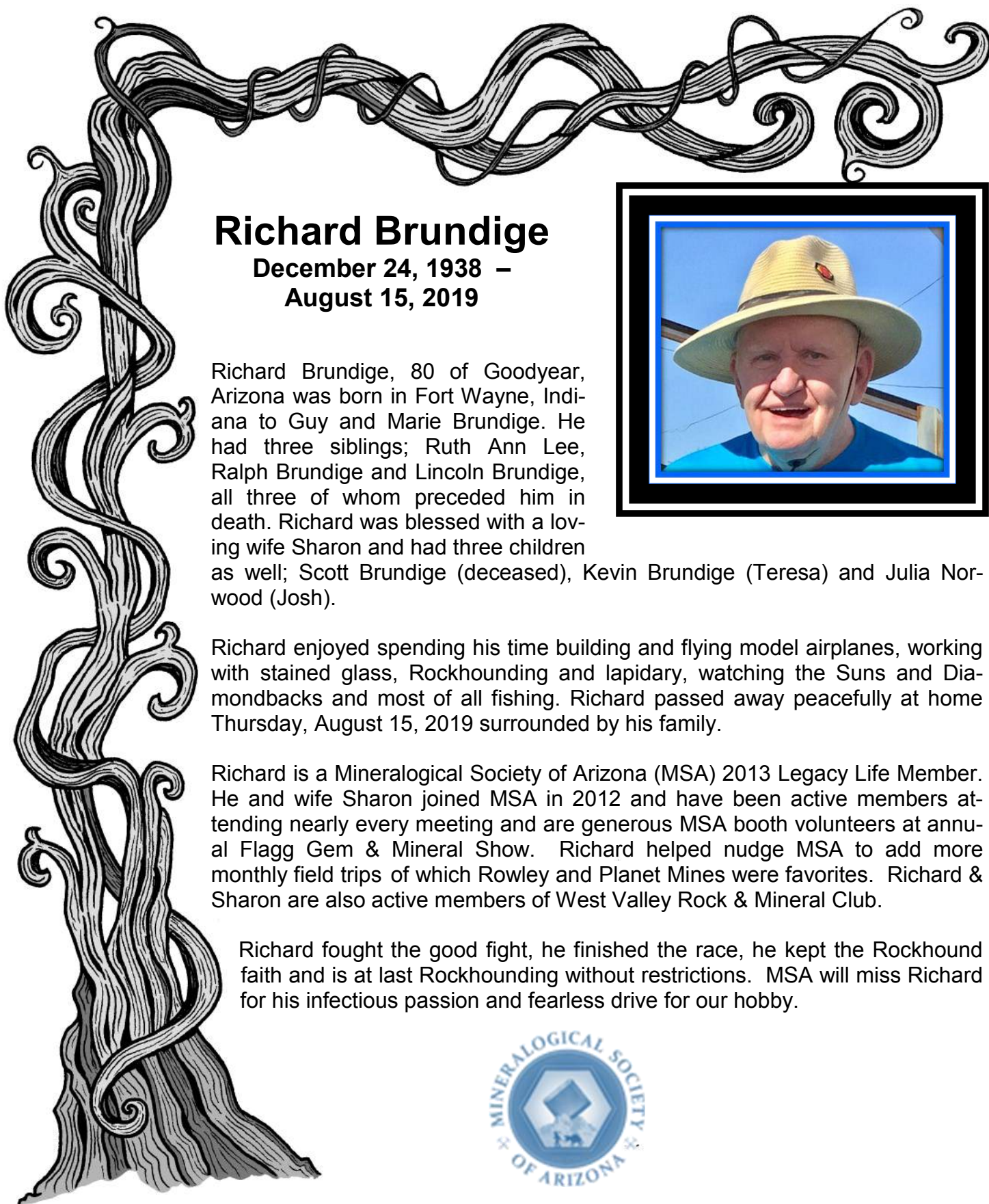
Betty's 48 years of MSA service achievements are numerous; she was a 2014 MSA Hall of Fame Inductee, Milestone Life Member, President 2007, Treasurer for several decades, Coalition Field Trip Coordinator, MSA/Arizona State Fair Mineral Case Coordinator, tireless volunteer and generous donor of rocks and minerals for MSA activities and programs.

MSA will miss Betty for her incredible experience, passion for our club, Arizona and our hobby.





Richard “Dick” Brundige Obituary



Richard Brundige

December 24, 1938 –
August 15, 2019

Richard Brundige, 80 of Goodyear, Arizona was born in Fort Wayne, Indiana to Guy and Marie Brundige. He had three siblings; Ruth Ann Lee, Ralph Brundige and Lincoln Brundige, all three of whom preceded him in death. Richard was blessed with a loving wife Sharon and had three children as well; Scott Brundige (deceased), Kevin Brundige (Teresa) and Julia Norwood (Josh).



Richard enjoyed spending his time building and flying model airplanes, working with stained glass, Rockhounding and lapidary, watching the Suns and Diamondbacks and most of all fishing. Richard passed away peacefully at home Thursday, August 15, 2019 surrounded by his family.

Richard is a Mineralogical Society of Arizona (MSA) 2013 Legacy Life Member. He and wife Sharon joined MSA in 2012 and have been active members attending nearly every meeting and are generous MSA booth volunteers at annual Flagg Gem & Mineral Show. Richard helped nudge MSA to add more monthly field trips of which Rowley and Planet Mines were favorites. Richard & Sharon are also active members of West Valley Rock & Mineral Club.

Richard fought the good fight, he finished the race, he kept the Rockhound faith and is at last Rockhounding without restrictions. MSA will miss Richard for his infectious passion and fearless drive for our hobby.





Rocky Mountain Federation of Mineralogical Societies

Mineralogical Society of Arizona (MSA) members in good standing are members by affiliation of Rocky Mountain Federation of Mineralogical Societies (RMFMS). RMFMS website is terrific educational resources to stay current on what's happening in our awesome hobby. Thank you for your membership and please enjoy all the benefits, privileges and opportunities as members of MSA & RMFMS.

The purpose of the Rocky Mountain Federation is to bring a closer association of all clubs in the Society, and to promote the study of earth sciences, including the lapidary arts, the study of fossils and paleontology, and related crafts.

The RMFMS was organized in 1941, and held its first annual convention at the Argonaut Hotel in Denver, Colorado. There were 16 organizations in attendance. The RMFMS became one of the original four founders of the American Federation of Mineralogical Societies when it was organized in 1947.



The Rocky Mountain Federation has clubs in these states: Arizona (17), Arkansas (1), Colorado (19), Kansas (5), Nebraska (western portion of state) (2), New Mexico (7), Nevada (1), North Dakota (western portion of state) (1), Oklahoma (9), South Dakota (western portion of state) (1), Texas (1), Utah (7) and Wyoming (8).

Traveling and Rockhounding in RMFMS, click on below Club Listing link for local clubs to reach out to join meetings or inquire about regional collecting sites.

Rocky Mountain Federation of Mineralogical Societies - Club Listing:

<http://rmfms.org/wp-content/uploads/2019%20Club%20Listing.pdf>

RMFMS State Director: Arizona/Nevada

Jodi Brewster (2019-2020) Gila County G & M Society
623-810-9780 jodibrewster66@gmail.com

RMFMS OFFICERS 2019-2020

President	Robert Regner, New Mexico
Vice-President	Sherry Johnson, Nevada
Secretary	Wayne Cox, Arkansas
Treasurer	Gene Maggard, Kansas

RMFMS CONVENTIONS SCHEDULE

Big Piney, Wyoming	June 19 th , 20 th and 21 st , 2020
Sandy, Utah	April 15 th , 16 th , 17 th and 18 th , 2021
Boulder City, Nevada	May 6 th , 7 th , and 8 th , 2022

Be sure to mark your calendars to attend these RMFMS Convention Shows and perhaps compete with your club website, club newsletters, articles, rock and mineral collections.

American Federation of Mineralogical Societies

Mineralogical Society of Arizona (MSA) members in good standing are members by affiliation of American Federation of Mineralogical Societies (AFMS). AFMS website is terrific educational resources to stay current on what's happening in our awesome hobby. Thank you for your membership and please enjoy all the benefits, privileges and opportunities as members of MSA & AFMS.



Purpose of the AFMS: To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary and other related subjects, and to sponsor and provide means of coordinating the work and efforts of all persons and groups interested therein; to sponsor and encourage the formation and international development of Societies and Regional Federations and by and through such means to strive toward greater international good will and fellowship.

"Code of Ethics"

- ♦ I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.
- ♦ I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.
- ♦ I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- ♦ I will use no firearms or blasting material in collecting areas.
- ♦ I will cause no willful damage to property of any kind such as fences, signs, buildings, etc.
- ♦ I will leave all gates as found.
- ♦ I will build fires only in designated or safe places and will be certain they are completely extinguished before leaving the area.
- ♦ I will discard no burning material - matches, cigarettes, etc.
- ♦ I will fill all excavation holes which may be dangerous to livestock.
- ♦ I will not contaminate wells, creeks, or other water supplies.
- ♦ I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- ♦ I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- ♦ I will support the Rockhound project **H.E.L.P. (Help Eliminate Litter Please)** and will leave all collecting areas devoid of litter, regardless of how found.
- ♦ I will cooperate with field-trip leaders and those in designated authority in all collecting areas.
- ♦ I will report to my club or federation officers, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- ♦ I will appreciate and protect our heritage of natural resources.
- ♦ I will observe the "Golden Rule", will use Good Outdoor Manners and will at all times conduct myself in a manner which will add to the stature and Public Image of Rockhounds everywhere.



MINERALOGICAL SOCIETY OF ARIZONA
EDITOR, THE ROCKHOUND RECORD
P.O. BOX 54307
PHOENIX, AZ 85078



MINERALOGICAL SOCIETY OF ARIZONA

Established 1935 <> 501(c)(3) Non-Profit Organization <> ISSN 2572-7486

EXPLORE <> SHARE <> INSPIRE

PURPOSE: To promote popular interest and education in Earth Science, and related fields (Geology, Mineralogy, Paleontology, and Lapidary arts). To foster a fellowship among individuals interested in Earth Science and enable our members to better identify materials we collect, and how to display or further process these materials. To teach all generations about rocks, minerals, fossils, and what can be done with them, and be collaborative in community of groups with similar interests to our Society.

MEETINGS: 7:30 p.m. Second Thursday of the month,
September through June; however, **must confirm meeting**
location, dates and times at MSA website msaaz.org.

CONTACT US: MSAClub1935@msaaz.org

Annual Dues / Rates

Couple - \$36.00
Single Adults - \$24.00
Junior (Under 18), Honorary and MSA Milestone Life members - FREE

MSA Legacy Life members are FREE (after the initial payment).
For information about purchasing a **Legacy Life Membership** based on your age, please visit our website: msaaz.org and click on "MSA Club" tab.



msaaz.org



Rocky Mountain Federation of Mineralogical Societies

rmfms.org



American Federation of Mineralogical Societies

amfed.org