The purpose of Daisy Mountain Rock & Mineral Club is to promote and further an interest in geology, mineralogy, and lapidary arts, through education, field experiences, public service, and friendship.

VOLUME 3, ISSUE 7  
AUGUST 2018

Sedimentary Structures: Mudcracks  
By Susan Celestian

Mudcracks (mud cracks), also called desiccation cracks, form when wet, muddy sediments dry out. As the sediment dries, it contracts. The surface sediment dries faster than the underlying sediment, so cracking occurs first at the surface, and progresses deeper, as drying proceeds. (Further shrinkage and curling details are described in Figure 3). As a result, the cracks are wider at the surface and narrow downward -- “V”-shaped. See Figure 1. And due to the physics of relief of stress through cracking, the cracks occur in a polygonal and networking pattern. See Figures 2-7.

FIGURE 1 Mudcracks  This cross-sectional view, of ideal mudcracks, reveals the V-shape of the cracks. That “V” can be used to determine the original UP direction of a sedimentary bed.  
Illustration by Susan Celestian

FIGURE 2 Polygonal Mudcracks  This picture was taken near The Pinnacles between Trona and Ridgecrest, CA.  
Photo by Stan Celestian

Mudcracks continued on page 4…..

PRESIDENT’S VIEW

It has been a busy summer for our Club. While discussions have been underway on prospective field trips for the upcoming season, we have also received donations of rocks and specimens, purchased a trailer to store all our treasures, secured dates from Boulder Creek High School for our 2019 Rock & Gem Show, as well as our Club being invited to participate in an event at the Desert Botanical Garden in October. Most importantly we have established a working relationship with the North Mountain Visitors Center.

We start our season in on Tuesday, September 4th with Jennifer Gecho’s wire wrapping class. Following that class we will have our general membership meeting. Our special guest speaker will be our own Jay Yett. Jay is a Geology Professor and founding member of our club. He is a very entertaining and informative speaker who will be setting the tone of the year to come. I am asking all members who plan on attending that meeting to bring a rock, gem, or fossil they found this summer to share with all of us.

I want to give special thanks to Bob Evans for giving up time during the summer to arrange the purchase of a 40 foot trailer and arranging to park it on a site in Desert Hills. We had out grown our space at Anthem U-Haul to the point that newly

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Lidar imaging reveals subtle coseismic fault scarps and uplifted beach terraces, from a quake that occurred 100 years ago, in the Puget Lowland near Seattle, WA. These scarps were not discernable until the advent of Lidar.

Photo courtesy of The Pacific Northwest Seismic Network.

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**Board of Trustees Meeting Minutes — June 5, 2018**

The meeting was called to order by President Ed Winbourne at 5:12 p.m. Those present were: Bob Salter, Victoria Peterson, Tammy Early, Claudia Merek, Joe Gecho, Ed Winbourne, Cynthia Buckner, Clark Little and Howard Roose (via telephone). A quorum was established.

**Motion:** by Cynthia, seconded by Claudia to approve the May 1st Board Meeting Minutes as well as the May 15th special Board Meeting Minutes, unanimously approved.

**Financial Report:**
Claudia presented the Club Financial report for May as well as the Financial report as of May 31, 2018 for the Rock and Gem Show. Report attached as well as being emailed to Club members. The Financial reports were approved and filed for audit.

**Old Business:**
Ed reported on the proposed purchase of a 40’ storage trailer and placing same on rental property located on New River Road. He mentioned the purchase of trailer and moving of same would amount to approximately $3800 to $4000. There was discussion relative to the cost of land rental and whether the rental price might go up in the future. Ed stated the rental cost would be nominal (approximately $100 + or -) per month. It was agreed, Ed would present the purchase and movement of trailer would be presented to the General Membership meeting this evening for approval.

**Summary of Year:**
Ed presented this summary: The Club continues to grow and prosper in membership as well as our finances are holding even with purchases. We have money in the bank. Field trips are expanding and this is our main strength. We presented a $1,000 yearly scholarship to Boulder Creek High School student Jack Coolings. He and his family were very appreciative and he will be attending ASU in pre med.

The Fifth Annual Gem Show was good again this year. We have stable leadership of the Club, and we need strengthening of the Committees going forward. Ed would like to formalize the agreement with North Valley Visitors Center. The By Laws have been revamped and will be voted upon by

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**General Membership Meeting Minutes -- June 5, 2018**

The Meeting was called to order by President Ed Winbourne at 6:33 p.m. Attendance was 31.

Ed introduced Doug Duffy from North Mountain Visitors Center and Club member as speaker for the evening.

The minutes of the May meeting were unanimously approved.

Donations for the raffle were provided by Nancy Horne, Stan and Sue Celestian, and Gemstones Loose, Inc. Donations were appreciated and enjoyed by the raffle winners.

**Financial Report:**
Cynthia Buckner, Treasurer, provided the financial report as well as the final financials for the Gem Show stating that we are in a good financial position and the Show receipts this year were about even with last year. Financial reports will be emailed separately.

**By-Laws Amendments:**
Victoria Peterson, Secretary, went over the proposed amendments to the Bylaws, which were previously emailed to the Club membership. There were two requested changes (following) by two club members which were included in the presentation by Victoria.

Two additional changes to By-Laws are: Article IV – Officers and Elections, Section 2: The term for Club Officers (President, Vice-President, Secretary, Treasurer) and Trustees shall be one year beginning, January 1, 2019; and Article VIII – Finances and Committees – Section 2: Expenditures: All expenditures of $500 or more, except for those expenditures noted in the Club yearly budget, will be presented and approved by the membership at a General Membership Meeting. Notification of proposed expenditure will be provided to membership via email or newsletter at least ten (10) days prior to the General meeting voting.

**Motion:** to approve amended By-Laws as presented with two changes, made by Clark Little, seconded by Jennifer Gecho, and unanimously approved by membership in attendance.

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...Board minutes continued from page 2

... General Minutes continued from page 2

**Daisy Mountain Rockchips**

**August 2018**

**By-Law update (amendment):**

Victoria presented a review of information previously approved by the Board on the amendments to the current By-Laws including two corrections: on page 3, Article IV – Officers and Elections, Section 2 to read, “The term for Club Officers (President, Vice-President, Secretary, Treasurer) and Trustees shall be one year beginning January 1, 2019”. On Page 7, Article VIII – Finances and Committees, Section 2: Expenditures: “All expenditures of $500 or more except for those expenditures noted in the Club yearly budget will be presented and approved by the membership at a General Membership Meeting. Notification of proposed expenditure will be presented to membership via email or newsletter at least ten (10) days prior to the General Membership Meeting for vote”.

The amended bylaws and corrections were approved for presentation to the General Membership Meeting for vote.

There being no further business and upon unanimous approval, the meeting was adjourned at 6:00 p.m.

Respectfully submitted,

Victoria Peterson, Secretary

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**WIRE-WRAPPING CLASS RESUMES**

4:30-6:30 pm
Prior to the meeting on Tuesday, September 4, 2018

- Bring: cab or stone, about quarter-sized or larger; 20 gauge or higher round dead soft wire; Round nose pliers and wire cutter.

Free, but donations are appreciated. Questions?
Contact Jennifer at Jennifer@eliteshuttersandblinds.com

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**Purchase of storage trailer:**

Ed Winbourne presented information on the proposed purchase of a 40’ storage trailer to be placed on rented land on New River Road, stating the trailer will be used instead of monthly rental of a U-Haul space as the space is too small for the Club’s needs as well as the monthly rental costs are going up. The proposed trailer will be placed on rented land on New River Road and the purchase will take place some time this Fall. The 40’ trailer will cost $3200 to purchase, $400 to move to rental property, and the yearly land rental is estimated to be $400 to $480.

Discussion ensued relative to whether the flooring was metal or wood and whether there would be a foundation, and what type of material would be stored as well as security issues. General consensus was these issues could be revisited when purchasing the trailer.

**Motion:** made by Clark Little, seconded by Joe Gecho, and unanimously carried to approve purchase of 40’ trailer and rental of land with purchase of trailer and movement of same not to exceed $4,000.

**Field Trip to Jerome:**

The trip is scheduled for Saturday, June 23, and we will meet at 7:30 a.m. at the Civic Center. For those who wish to travel on their own, they will meet the group at 9 a.m. at the Jerome Fire Station.

**T-Shirts for Sale:**

Claudia reported she has Club T-shirts available for sale.

**Overview of Club’s Year:**

Ed presented an overview of the Club stating that the Club is in good financial condition, membership is growing, our Field Trips are well attended and enjoyed and we are continuing to award a $1,000 scholarship to a Boulder Creek High School student. This year’s scholarship recipient is Jack Coolings who will be attending ASU in pre-med. Both he and his parents were very appreciative of the scholarship. The Club is also continuing our educational piece, giving talks to schools and participating in the STEM nights.

There being no further business, the meeting adjourned at 8:10 p.m.

Respectfully submitted, Victoria Peterson
Environmental significance of mudcracks:
Mudcracks are indicative of wet-and-dry conditions - conditions such as found on floodplains, ephemeral stream channels and ponds, and playas. Additionally, widely-spaced, irregular mudcracks indicate rapid drying of sunny locales; while more regular, closely-spaced mudcracks indicate shadier locales.

**FIGURE 3 Polygonal Mudcracks Close-up** In this closer view of the mudcracks from Figure 2, you can get a feeling for the V-shape of the cracks. In addition, note that the upper layers are beginning to curl. Very fine clayey mud is underlain by coarser, sandier material. Clays can retain water longer than other minerals, so there is a significant difference between the rates of drying through the layers, with the surface drying -- and shrinking -- much more radically than further down. The clay will also shrink more than the sandier material, so is pulling away from that layer. See Figure 4 for further discussion of curling.  

**FIGURE 4 Mud Curls** As layers of different-sized sediment dry, they may curl. If these curls are ripped up into flat bits (but not destroyed), in the next wetting event, they may be incorporated as flat, angular clasts in the layers that are deposited above, creating what is called a flat-pebble or intraformational conglomerate or breccia (the clasts are derived within the formation). See Figure 5 below.

**FIGURE 5 Intraformational Conglomerate** The upper portion of this sandstone/diatomiteous shale rock unit (spanned by the hammer) is an intraformational conglomerate/breccia. The clasts are flat and angular -- essentially rectangular. One can picture a storm ripping up mud curls or other surface layer, re-depositing them in situ (with little to no transportation), and quickly burying them. Photo courtesy of the USGS/By Milton Nunn Bramlette  


**FIGURES 6 & 7 Mudcracks in Rocks** Figure 6 (upper) is of mudcracks in a slab of the Precambrian Belt Series in Glacier National Park. Figure 6 (lower) is from the Triassic Moenkopi Formation, near Gray Mountain (AZ). Note how the cracks bulge. We are looking at the bottom of the original bed -- subsequent to cracking, a flood brought in sediment that filled the cracks.  

Photos by Stan Celestian
donated material, as well as material for our show, were being stored at members homes because there was no room for any of it in the storage space. With help from Bill Smardo we moved our treasures to the new trailer, and secured them. Storage and access to our material has been an ongoing problem that has now been solved thanks to the selfless efforts of Bob Evans.

I have worked with Doug Duffy and Howard Roose to formalize our relationship with the North Mountain Visitors Center. For those of us that wish to learn the lapidary arts and turn our finds into material for display this is a very big step. It means we will have access to instruction and equipment that we have been striving to obtain and use since the inception of our club. I encourage all interested members to take advantage of this great opportunity.

This is the earliest we have been able to secure dates for our show. As of now we will be once again at Boulder Creek High School. Our 2019 show will be on March 16-17 with set up on Friday the 15th. The school will provide us with a floor covering that will protect the newly refurbished Gym floor. This will complicate set up to some degree, as we have not had to do this in the past. Having the dates this early has allowed Howard Roose to begin designing and distributing advertising material. We should have something available for the Albuquerque show.

We will be discussing participation in the Desert Botanical Garden event at the September event. The event is called Strange Garden and will be on October 26 &27 from 5:00 to 9:00. They are expecting 1800 people in attendance on each night. One suggestion put forward is that we set up our fluorescent display in our blackout tent. There will be more discussion on this at the September 4 meeting. Please come ready with your ideas.

So, as you can see, although we have been on vacation for two months there has been work going on to ensure the upcoming year will be one of our fullest and most exciting. I look forward to seeing all of you and having a great time looking for rocks.

Yours truly, Ed Winbourne

Goblin Valley State Park near Hanksville, Utah

Looking for a fun place to travel this Fall? A relatively quick trip could take you to Goblin Valley State Park. Under 500 miles away, it is a setting with the other-worldly feel of Mars. (In fact, a scene in the movie Galaxy Quest was filmed here.) Goblin-like hoodoos overlook the scene, making this a fun area to wander. The hoodoos formed in the jointed Entrada Sandstone, a rock deposited on a Jurassic tidal flat.

“The Sentinels” welcome you to Goblin Valley

Photos by Stan Celestian
## UPCOMING FIELD TRIPS

**WHEN:** September 29, 2018  
**WHERE:** Sycamore Creek  
**WHAT:** Jasper (bright red)  
**MEET:** There may be a meeting point scheduled in Anthem. But definitely meet near the collecting site at 9:30, depart at 10 am. Take 87 north toward Payson, .75 mi past MP222, turn left at sign for Sycamore Canyon, go 1.2 miles to parking area where we will group before heading in. The road to the site should be suitable for any vehicle. *Maps and directions will be sent in separate email.*  
**LEADER:** Stan Celestian

**WHEN:** October 27, 2018  
**WHERE:** Amethyst Hill area  
**WHAT:** Barite, Fluorite, Amethyst, Cerussite  
**MEET:** TBA  
**OTHER:** Any vehicle OK to the turn off Constellation Road; high clearance the short distance to mine (ride-share at that point possible)  
**LEADER:** Stan Celestian

**WHEN:** November 10, 2018  
**WHERE:** Lake Pleasant area  
**WHAT:** Calcite  
**MEET:** TBA -- Probably suitable for any vehicle  
**LEADER:** TBA

**WHEN:** November 16-18, 2018  
**WHERE:** Yellow Pine Mine (near Las Vegas)  
**WHAT:** Galena, Kaolinite ps Orthoclase, Hydrozincite; Smithsonite, nearby Travertine  
**MEET:** Meet site probably gas station at Jean/Goodsprings exit on I-10W, at 8:30 am. You will need to make you own lodging arrangements. Dave and Robin will be staying at the Silverton (3333 Blue Diamond Blvd, Las Vegas)  
**OTHER:** This is an overnight trip. MAKE RESERVATIONS EARLY. You will need to make you own lodging arrangements. Dave and Robin will be staying at the Silverton (3333 Blue Diamond Blvd, Las Vegas). Group dinner at the Silverton on the 17th. MORE DETAILS AS DATE NEARS.  
**LEADER:** Dave Haneline

## NOTE FROM THE EDITORS

Have a geological interest? Been somewhere interesting? Have pictures from a club trip? Collected some great material? Send us pictures -- or write a short story (pictures would be great). We encourage topic suggestions also.  
**Deadline for the newsletter is the 22nd of the month.**

Mail or Email submissions to:  
Susan Celestian  
6415 N 183rd Av  
Waddell, AZ  85355  
azrocklady@gmail.com

**WHEN:** November 10, 2018  
**WHERE:** Lake Pleasant area  
**WHAT:** Calcite  
**MEET:** TBA -- Probably suitable for any vehicle  
**LEADER:** TBA

**WHEN:** December 15, 2018  
**WHERE:** Burro Creek  
**WHAT:** Jasper, Agate  
**MEET:** TBA  
**LEADER:** TBA

**WHEN:** January 12, 2019  
**WHERE:** Plant Mine  
**WHAT:** Specular Hematite, Chrysocolla  
**MEET:** TBA  
**LEADER:** TBA

Field Trips continued on page 7….
Daisy Mountain Rockchips

WHEN: February 9, 2019
WHERE: Dragon Mine
WHAT: Tourmaline, Purple Mica, Thundereggs
MEET: TBA
LEADER: TBA

WHEN: March 19, 2019
WHERE: Peridot Mesa
WHAT: Olivine var peridot
MEET: TBA
LEADER: TBA

WHEN: April 6, 2019
WHERE: Bullard Mine
WHAT: Chrysocolla, Malachite
MEET: TBA
LEADER: TBA

WHEN: May 11, 2019
WHERE: Payson area
WHAT: Zebra Chert, Pennsylvanian Fossils
MEET: TBA
LEADER: TBA

WHEN: June 1, 2019
WHERE: Lynx Creek near Prescott
WHAT: Gold
MEET: TBA
LEADER: Stan Celestian

DATES SUBJECT TO CHANGE

Stan and the field trip committee will be actively looking for productive spots for field trips. If you have any suggestions, you are encouraged to contact him at stancelestian@gmail.com

LAPIDARY & RELATED RESOURCES:

There are lots of websites out there with hints, tips, tutorials, and ideas about lapidary processes, silversmithing, wire-wrapping and other related crafts.

FACEBOOK: There are many groups on Facebook, there to join and reap the benefits of others’ expertise. For example:

Lapidary Tips and Tricks: https://www.facebook.com/groups/774419732663040/about/

SilverSmitting and Jewellery: https://www.facebook.com/groups/Silversmithing.Jewellery/

PINTEREST: Pinterest is a bottomless searchable font of ideas, on any imaginable subject. Members save ideas, tutorials, and images within many, many categories. Join and you can create your own categorized bank of information -- either by choosing ones already “pinned” by other members, or ones you find while browsing the web. Pinterest will suggest links related to your interests. For example:

Cutting Ethiopian Opal: https://www.pinterest.com/pin/AWsIrOwQVQgI71ZBUilVmlJc7W0OywLq2bhZcxyycQ34xwg0eNswM/

Wire Wrapping https://www.pinterest.com/pin/452471093807120520/

Viking Weave: https://www.pinterest.com/pin/421438477603181989/

YOUTUBE: Here you can find videos of instruction on many, many subjects. Sometimes it is very helpful to see a technique being done, and orally described. For example:

Soldering a silver ring: https://www.youtube.com/watch?v=AiTXgm5G23s
UPCOMING AZ MINERAL SHOWS

September 7-9 - Cottonwood, AZ  Mingus Mountain Gem and Mineral Club (HelzaRockin’ Gem and Mineral Show); Clemenceau Museum, 1 N. Willard St; Fri 10-5, Sat 9-5, Sun 9-4; Admission: Adults $3, children free.

October 12-14 - Buckeye, AZ  West Valley Rock and Mineral Club (HelzaRockin’ Gem and Mineral Show); Buckeye Arena, 802 N 1st St (Miller Rd); Fri-Sat 9-5, Sun 9-2; Admission: Adults $3, children under 13 free, with adult.

October 13-14 - Sierra Vista, AZ  Huachuca Mineral and Gem Club; Cochise College, 901 N Colombo Av; Sat 9-5, Sun 10-4; Admission: Free.  SEE POSTER ON PAGE 10

October 20-21 - Sedona, AZ  Sedona Gem and Mineral Club; Sedona Red Rock High School, 995 Upper Red Rock Loop Rd; Sat 10-5, Sun 10-4; Admission: Adults $3, children free.

November 2-4 - Black Canyon City, AZ  High Desert Helpers; High Desert Park, 19001 E. Jacie Ln.; Fri-Sun 9-4; Admission: Free.

November 17-18 - Payson, AZ  Payson Rimstones Rock Club; Payson H.S., Longhorn Gym, W. Longhorn Rd & N. McLane Rd.; Sat 9-5, Sun 10-4; Admission: Adults $2, children under 12 free.

November 24-25 - Wickenburg, AZ  Wickenburg Gem and Mineral Club; Wrangler Event Center, 251 S. Tegner St.; Sat 9-5, Sun 10-4; Admission: free.

If you are travelling, a good source of shows AND clubs is http://www.the-vug.com/vug/vugshows.html or http://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=AZ For out-of-the-country shows: http://www.mindat.org/shows.php?current=1

A good source for a list of Arizona Mineral Clubs and contact information is http://whitemountain-azrockclub.org/Public_AZ_Clubs_Links.html

Visit http://rmfms.org/ for news about conventions, events, and associated clubs. If you are travelling, you might want to contact a club local to your destination. Maybe they have a field trip you could join, while in town.

FACEBOOK
Visit and join the club page periodically. See what is happening, and boost our visibility on the web. Go to: The Daisy Mountain Rock and Mineral Club. It is set up so you can post photos of outings or related items.

WEBSITE
http://www.dmrmc.com/
Here you will find photos highlighting field trips, activities/classes and our show, links to rockhounding regulations, newsletter archive, geologic articles, and links to geologic resources.

If you have comments, contact webmaster, Nancy Gallagher.

Officers, Chairpersons, & Trustees

President: Ed Winbourne.....ewinbourne@gmail.com
Vice President: Stan Celestian
Secretary: Victoria Peterson ..............................................victoriapeterson@yahoo.com
Treasurer: Cynthia Buckner
Publicity: Howard Roose
Membership: Tiffany Poetsch tnpoetsch@gmail.com
Editors: Susan & Stan Celestian.................................azrocklady@gmail.com
Field Trip: Stan Celestian... stancelestian@gmail.com
Show Chair: Ed Winbourne
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  Tammy E
  Bob E
  Jennifer G
  Joe G
  Clark L
  Claudia M
  Tiffany P
  Jim R
  Witt R
  Howard R
  Bob S

Meetings are held the 1st Tuesday of the month at the Anthem Civic Building, 3701 W Anthem Way, Anthem, AZ 85086. Business meeting at 6:30 pm. We do not meet in July or August.

DMRMCLUB@GMAIL.COM

Membership Dues:  $20.00 Adults per Person
                  $25.00 Family (2 people)
                  $ 5.00 Additional children

Meeting Dates for 2018
Jan 2, Feb 6, Mar 6, Apr 3, May 1, June 5, Sept 4,
          Oct 2, Nov 6, Dec 4
44TH ANNUAL HUACHUCA GEM, MINERAL & JEWELRY SHOW

OCTOBER 13th & 14th, 2018
SAT., 9:00 AM - 5:00 PM
SUN., 10:00 AM - 4:00 PM
COCHISE COLLEGE
901 N. COLOMBO AVE.
SIERRA VISTA, AZ
FREE ADMISSION - FREE PARKING - HANDICAPPED ACCESSIBLE

Vendors Inside and Outside*Educational Displays*Jewelry*Jewelry Making Supplies*Raffles*
Kid's Games*Fluorescent Displays*Geode Sales/Cutting*Free Gem Stone Identification by Certified Gemologist*

Vendor Info – Contact Ingrid Baillie - 520 459-3718, ibaillie@cox.net
General Info – Contact Maudie Bailey 520 378-6291/520 249-1541, gmbailey@msn.com