

Cuyuna Rock, Gem and Mineral Society

The Agate Explorer

March 2018

Help Fill the Egg Cartons!



The kids' day camp will have a station on the rocks of Minnesota. In that class kids will learn about local rocks and fill their own egg carton with samples. We need about 50 small specimens (think bottle cap to egg size) of the following:

Mary Ellen Jasper	Binghamite
Ely Greenstone	Hematite
Jasper	Taconite
Basalt	Limestone
Silkstone	Iron Ore
Morton gneiss	

Please bring the specimens to the April or May meetings. If you have questions, call Ed Opatz at 320-250-1363.



Wire Wrapping Class

Make a tree of life pendant similar to the one shown. Must bring: round-nose plier, flat-nose plier, & wire cutter.

Date: Sat., Mar. 10
(same as meeting)

Time: 9 a.m.—noon

Location: Franklin Arts Center cafeteria

Instructor: Joanie Hanson

Fee: \$15

Registration open until filled; 6 max

To register, call or text Joanie Hanson at 218-831-2665. If there is no answer when you call, PLEASE leave a message.



Franklin Art Center (above)

Club Information

Meeting Place

Lower level
Franklin Arts Center
1001 Kingwood St, Brainerd, MN 56401

Directions

.4 mile east of Business Hwy. 371
& Hwy. 210 intersection.
(Castle turret water tower.)

Date/Time

the 2nd Saturday of each month
at 2 p.m. unless otherwise noted.

Club Dues

\$20/ family
Free /unaccompanied juniors
Membership runs
from Jan. 1-Dec. 31st.

We need someone who can call the people that do not have email. Usually that is for last minute agate pick information, deadlines for events, etc. There are 12-15 people on the list. Please call Ed Opatz at 320-250-1363.

Kids' Program

Let's make a wire wrap tree.
Saturday, March 10 during the
regular meeting presentation.

Club Calendar

March 10—Board Meeting at 12:30; General Meeting at 2:00; presentation by Jim Magnuson on how to tumble rocks and different types of tumblers.

April 14—Board Meeting at 12:30; General Meeting at 2:00; show preparation and presentation by Mike Braun on Polyhedral Agates.

May 5 & 6—Rock Show

May 12—Meeting

June 8 and 9—Kids' Day Camp

June 9—Meeting

Information subject to change.



Club Purpose

To foster an interest (& encourage young & old) to study earth science, enjoy the art of lapidary, hunting for rocks, and semi-precious stones. We also strive to use what we know and acquire to further educate everyone who has an interest in our hobby. We are a not-for-profit organization.

Mineral Encyclopedia

Copper



Native copper is an element and a mineral. It is found in the oxidized zones of copper deposits; in hydrothermal veins; in the cavities of basalt that have been in contact with hydrothermal solutions; and as pore fillings and replacements in conglomerates that have been in contact with hydrothermal solutions. It is rarely found in large quantities, thus it is seldom the primary target of a mining operation. Most copper produced is extracted from sulfide deposits.

What Properties Make Copper Useful?

The excellent alloying properties of copper have made it invaluable when combined with other metals, such as zinc (to form brass), tin (to form bronze), or nickel. These alloys have desirable characteristics and, depending on their composition, are developed for highly specialized applications. For example, copper-nickel alloy is applied to the hulls of ships because it does not corrode in seawater and reduces the adhesion of marine life, such as barnacles, thereby reducing drag and increasing fuel efficiency. Brass is more malleable and has better acoustic properties than pure copper or zinc; consequently, it is used in a variety of musical instruments, including trumpets, trombones, bells, and cymbals.

Copper - A Metal Used Through The Ages

Copper was one of the first metals ever extracted and used by humans, and it has made vital contributions to sustaining and improving society since the dawn of civilization. Copper was first used in coins and ornaments starting about 8000 B.C., and at about 5500 B.C., copper tools helped civilization emerge from the Stone Age. The discovery that copper alloyed with tin produces bronze marked the beginning of the Bronze Age at about 3000 B.C.

How Do We Use Copper Today?

As in ancient times, copper remains a component of coinage used in many countries, but many new uses have been identified.

One of copper's more recent applications includes its use in frequently touched surfaces (such as brass doorknobs), where copper's antimicrobial properties reduce the transfer of germs and disease. Semiconductor manufacturers have also begun using copper for circuitry in silicon chips, which enables microprocessors to operate faster and use less energy. Copper rotors have also recently been found to increase the efficiency of electric motors, which are a major consumer of electric power.

Copper is easily stretched, molded, and shaped; is resistant to corrosion; and conducts heat and electricity efficiently. As a result, copper was important to early humans and continues to be a material of choice for a variety of domestic, industrial, and high-technology applications today.

Presently, copper is used in building construction, power generation and transmission, electronic product manufacturing, and the production of industrial machinery and transportation vehicles. Copper wiring and plumbing are integral to the appliances, heating and cooling systems, and telecommunications links used every day in homes and businesses. Copper is an essential component in the motors, wiring, radiators, connectors, brakes, and bearings used in cars and trucks. The average car contains 1.5 kilometers (0.9 mile) of copper wire, and the total amount of copper ranges from 20 kilograms (44 pounds) in small cars to 45 kilograms (99 pounds) in luxury and hybrid vehicles.

<http://geology.com/minerals/>

Physical Properties of Copper

Chemical Classification Native element

Color Copper red on a fresh surface, dull brown on a tarnished surface

Streak Metallic copper red

Luster Metallic

Diaphaneity Opaque

Cleavage None

Mohs Hardness 2.5 to 3

Specific Gravity 8.9

Diagnostic Properties Color, luster, specific gravity, malleability, ductility

Chemical Composition Copper, Cu

Crystal System Isometric

Uses Conducts electricity and heat; wiring, electrical contacts and circuits; coinage, alloys

Jewelry Making Tip

By Brad Smith

www.BradSmithJewelry.com



Risks of Natural Gas

Some jewelers in the USA are tapping in to the natural gas system in their homes to fuel their torch. Two students have asked me if this was safe. Because I'm not an expert in torch gas systems I called the engineering department of Smith Equipment Company and tech support at Rio Grande. Both told me it was not safe to use natural gas available in US homes. NOTE: This applies to the USA only. I know nothing about the gas used in other countries.

The problem concerns a thing called a flashback arrestor that isolates your torch from the sources of oxygen and fuel gas. The people at both Smith (605 882-3200) and Rio (800 545-6566) explained that home natural gas comes in at too low a pressure for the flashback arrestor to function correctly. This means that a problem at the torch could propagate a fire back through the fuel hose and into your home's gas pipe system. And that can't be good.

Natural gas pressure in a US home is typically about one-quarter of one pound per square inch, very low. Flashback arrestors require at least two pounds per square inch to work properly. Special equipment is available to solve the problem, but it is quite expensive.

So it's best to use bottled fuel gas through a regulator and flashback arrestor.

My jewelry bench is inside my home, not in a garage or a separate shop building, so I'm obviously concerned that the operation is safe. On the advice of a local fire marshal, I do not use a refillable fuel gas tank. He said it contains too much gas in case of a leak and would be a problem with my home insurance. So my choice of fuel gas is to use propane in 14 ounce disposable cylinders. I use it with a refillable oxygen tank that, like medical oxygen, is quite safe in the house.

The World of Jaspers

Imperial Jasper



Imperial Jasper is considered to be one of the five fine jaspers. (The other fine jaspers are Bruneau jasper, Morionite, Willow Creek jasper and Blue Mountain jasper).

Imperial Jasper is found about 50 miles northwest of Guadalajara, Mexico on the east side of a steep canyon. This canyon lies north of the small town of San Cristobal and its steep slopes are covered with dense vegetation. The jasper-bearing area is very large, almost 6 km long with many individual deposits, each with its own characteristics. Pink Imperial, Brown Imperial, Green Imperial, Spiderweb Imperial, Select

Imperial, and Royal Imperial are all names associated with these various jasper deposits.

The jasper occurs as veins, large filled vugs, and as nodules in the host rock. Pieces over 100 lbs. in size have been recovered, but due to extensive natural cracking in the deposit most material is much smaller.

The deposits are also rich and concentrated. In the last decade over 100 tons of Imperial Jasper has been mined. Most of the deposits are under claim, but the claim rights are complicated by multiple land owners. The amount of jasper produced from this area far exceeds the total lifetime production of all the other fine jaspers listed above.

<https://thegemshop.com/pages/imperial-jasper-location>

WANTED TO BUY

Tumbled rocks or small rocks to be tumbled for the spinning wheel. Rough, small (less than golf ball size) Lake Superior agates. Also, donations of rocks for the rock room.

Call Ed Opatz at 320-250-1363, or Sharon Smith at 218-343-7037.

Cuyuna Rock, Gem, & Mineral Society on the Web
www.cuyunarockclub.org

Sunshine Requests

If you know someone who could use a little sunshine—birth, illness, surgery, family death—please contact Christi Higgins at 320-224-6650.



March Birthdays

Jennie Johnson	3/2
Ronald Weinhold	3/3
Sara Lucken	3/4
Randy Fellman	3/10
Alex Klemmer	3/14
Stella Lee	3/14
Joanie Hanson	3/17
Richard Berg	3/29

March Anniversaries

Pat & Christi Higgins	3/1
Butch & Cindy Goldenstein	3/16

We're on Facebook!
Cuyuna Rock, Gem & Mineral Society



This is a closed group, so you must ask to join. After being approved you can follow the members' posts and add your own information.

Cuyuna Rock, Gem, and Mineral Society Board Meeting Minutes February 10, 2018

Meeting was called to order at 12:40 by Vice-President Chuck Durnan.

Present were: President Ed Opatz (via phone), Secretary Joanie Hanson, Treasurer Kevin Martini, Board Members-at-Large Sharon Smith, Keith Lorensen and Vern Iverson.

The old dishwashing area of the cafeteria has been given to the club to use. The board voted to rehab this area and Kevin is converting it to storage and rock room area. He is closing in the wall and putting in a door. He should have it finished after next weekend. Chuck Knierim who is a member and lives at Franklin is helping him. This will allow us to move the rock room to a secured area and open up space in the clubhouse for other uses.

Lilly Peterson and Lisa Hughes will work on pricing rock in the rock room.

The club is looking at cost of purchasing a geode cracker but no decisions yet.

Ed has provided a list of all the rock he has purchased for the club- a motion to accept these purchases was passed. A motion passed to allow Ed to purchase grit for club use.

The Aitkin Chamber of Commerce event is March 10 & 11, Bev Williams will represent the club at this. She is looking for volunteers to help her.

The St. Patrick's Day parade in Crosslake is Sat March 17th.

Vern will look at pricing for new t-shirts.

The club needs new business cards with the new address on them- Sharon and Marcia will work together on these.

Flyers will be printed soon for the show. Krystle Dorris from the TV show "Prospectors" has been invited to participate in our show. Vern suggested a vendor that specializes in Montana agate.

Franklin is having an Art Space Gathering on Thursday August 9 to celebrate the tenth

anniversary of the building as an art space for artists to live and work. We will also take part in some capacity TBD.

Building security- we have placed a new lock on the clubhouse door. All board members will now have keys.

The club will be able to have a display in the south display case at the main entrance of Franklin for the months of April and May. Chuck Knierim has offered to help with shelves for this as he works with wood and lives in the building.

Treasurer's Report- Kevin Martini will be posted at clubhouse.

Show updates- Sharon Smith: as of this writing has 70 tables inside and 20 outside signed up.

These are the shows and festivals that the rock club will be at this summer: Aitkin, Moose Lake, Outing, Emily and Crow Wing County Fair. Signups for volunteers will be available at the next meeting

Respectfully submitted,
Joanie Hanson

Huge Dinosaur Found in Egypt Is First of Its Kind



When it comes to looks, the long-necked dinosaur *Mansourasaurus shaninae* isn't all that remarkable. But the new species of sauropod is still turning heads among paleontologists.

Discovered in Egypt, the creature is one of the few dinosaur fossils found so far in Africa that dates to the late Cretaceous period, roughly 80 to 66 million years ago. This time marks the final chapter in the age of dinosaurs, which came to an abrupt end when a giant meteor smacked into what is now the Yucatán Peninsula.

Africa's fossil record during the late Cretaceous is sparse, says study contributor and Carnegie Museum of Natural History paleontologist Matthew Lamanna. That means scientists aren't sure which dinosaurs lived where across the continent during the period, and how much they mixed with dinosaurs on other ancient land masses.

Paleontologists at Mansoura University in Egypt discovered the *Mansourasaurus* fossils in the Sahara in 2013. Lamanna and a group of paleontologists from various research institutions then examined the fossil during work that was funded in part by the National Geographic Society. Their work categorizing the new species appears today in the journal *Nature Ecology and Evolution*.

"The end of the age of dinosaurs in Africa is one of the final frontiers for dinosaur paleontology," Lamanna says. The new find "adds a bit of hard evidence to what African fauna was like" during this crucial time period.

When dinosaurs first emerged, they populated a single land mass made up of connected continents. But as those continents began to shift and break apart, many terrestrial dinosaurs became separated by vast oceans.

Some paleontologists theorized that, like

modern-day Australia, Cretaceous Africa was essentially an island continent filled with unique species. Other experts suggested the African land mass still had ties to its neighbors.

"Was Africa an isolated continent, or were there connections with the land masses surrounding it?" asks Field Museum paleontologist Eric Gorscak. The new find, he says, suggests the latter. So far, *Mansourasaurus* seems very similar to Cretaceous sauropods found in Europe and Asia, suggesting that the Egyptian dinosaur did not evolve in isolation.

"It seems to suggest Africa was a mixture of Northern and Southern Hemisphere [dinosaurs]," he says.

The discovery therefore also provides clues about Cretaceous geography, says Michael Habib, a paleontologist from the University of Southern California who was not involved with the study.

By the end of the Cretaceous, the continents as we know them would have been in "modern-ish" positions, as he describes them. Sea levels, however, would have been higher, making it difficult for animals to swim across.

Whether *Mansourasaurus* might have walked over a land bridge, swam from closely positioned islands, or traveled in a yet-to-be-discovered way from Europe or Asia is unclear.

Part of why fossils have been so difficult to find in Africa is a matter of luck, adds Habib.

"You need the right kind of rocks exposed in the right way," to find intact fossils, he says. Underdeveloped infrastructure and political conflict have also made it difficult for paleontologists to find African dinosaurs.

Scientists at Mansoura University and Lamanna will continue searching for dinosaurs in Egypt.

"Our understanding of land animals will improve dramatically over the next few years," he predicts, "but we have a long way to go."

<https://news.nationalgeographic.com/2018/01/new-egyptian-dinosaur-africa-europe-asia-cretaceous-spd/>

Rox Box

A place to advertise rock items to sell and to inquire about items to purchase.



The Cuyuna Rock, Gem & Society accepts no responsibility for any dissatisfaction that may occur by either party, seller or buyer. The Society does not profit in any way by sales transactions.

For Sale: Thumler

Model B Tumbler
15 lb. capacity; hex steel barrel, rubber liner. 2 units available. \$150 each. Contact Harry Wagoner—218-927-9983 or hpwagy@centurylink.net



Wanted: I would like to speak with a fellow rockhound who owns a Covington Engineering slab saw with power feed. Please call Butch Goldenstein at 320-252-3335."

Wanted: Rough specimens of orbicular granite especially from Peru. Also orbicular diorite or other plutonic rocks. Harry A. Wagoner 218-927-9983

Wanted: Ultrasonic cleaner. Prefer 4 quart or larger. Call Ed Opatz at 320-250-1363 or email opatz1@att.net.

Agates From Around The World

Swazi Agate



The Swazi Agates are actually from Mozambique, not Swaziland. They're more translucent than the porcelain pink Botswana Agates.

Some people refer to them as Rose Agates for their pinkish colors. The agates are white to gray with strong pinkish to lavender hues, sometimes with reddish rims. The horizontal bands are more common in Swazi agates than Botswana and some had been found with inclusions and eyes structures.

<http://www.sailorenergy.net/Agates/AgatesAfricaSwaziAgates01.html>

March Rock Shows

2-4—ATHENS, GA: Southeastern Mineral Specimens, The Classic Center; Fri. 10-6, Sat. 10-6, Sun. 11-5; \$5, under 15 free; Website: <https://m.facebook.com/SoutheasternMineralSpecimens/>

2-4—NEWARK, CA: Mineral & Gem Society of Castro Valley, Newark Pavilion; Fri. & Sat. 10-6, Sun. 10-5; \$6, Children free with adult; Website: mgscv.org

2-4—DEL MAR, CA: Gem Faire Inc, Del Mar Fairgrounds; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: <http://www.gemfaire.com>

2-4—RICHMOND, IN: Eastern Indiana Gem & Geological Society, 5199 U.S.40 East, Centerville, IN; Fri. & Sa. 10-6, Su. 11-4; \$5, Srs \$3, Students 7-18 \$1, Under 7 free; e-mail: jleeburton@woh.rr.com

3-4—APPLETON, WI: Weis Earth Science Museum, The Grand Meridian; Sat. 10-5, Sun. 10-4; \$2, Under 12 free; Website: www.weismuseum.org

3-4—TORRANCE, CA: South Bay Lapidary & Mineral Society, Ken Miller Rec Center; Sat. 10-5, Sun. 10-4; Free; CA, (310)-257-8152; Website: southbaylapidaryandmineralsociety.com

3-4—ISSAQUAH, WA: East King Co. Rock Club; Pickering Barn; Sat. 10-6, Sun. 10-5; Free; e-mail: showchair@eastkingco.org

3-4—NEW YORK, NY: New York Mineralogical Club, Watson Hotel; Sat. 10-6, Sun. 11-5; \$6, Under 12 free; Website: www.newyorkmineralogicalclub.org

3-4—WILMINGTON, DE: Delaware Mineralogical Society, Inc., U of D-Wilmington; Sat. 10-5, Mon. 11-5; \$6, Srs \$5, Students \$4, Under 12 free; Website: www.delmin.society.net

3-4—VENTURA, CA: Ventura Gem & Mineral Society, Ventura County Fairgrounds; Sat. 10-5, Sun. 10-4; Free; Website: www.vgms.org

3-4—CALDWELL, ID: Owyhee Gem & Mineral Society, O'Connor Field House; Sat. 10-6, Sun. 10-5; \$4, Under 12 free; Web site: www.OwyheeRocks.com

3-4—MERIDEN, CT: Lapidary & Mineral Society of Central Connecticut, Maloney High School; Sat. 9:30-5, Sun. 10-4; \$5; Website: www.LMSCC.org

3-4—ARCADIA, CA: Monrovia Rockhounds, The Arboretum & Botanical Gardens of Los Angeles; Daily 9-4:30; \$9, Srs/Students \$6, Children \$4; Website: www.moroks.com

3-4—ROBSTOWN, TX: Gulf Coast Gem & Mineral Society, RMB Regional Fairgrounds; Sat. 10-6, Sun. 10-5; \$6; Website: www.gcgms.org

8-11—DEMING, NM: Deming Gem &

Mineral Society, SWNM State Fairgrounds; Daily 9-5; Free; Website: theDGMS.com

9-10—COLVILLE, WA: Panorama Gem and Mineral Club, Colville Ag Trade Center; NE WA Fairgrounds; Fri. 8:30-6, Sat. 9-5; Free; e-mail: Sago2@hotmail.com

9-11—AUGUSTA, GA: Aiken and Augusta Gem and Mineral Societies, Julian Smith Casino; 2200 Broad Street; Fri. 10-6; \$3 or \$5 for a weekend pass, Under 12 free; e-mail: crismineral@gmail.com

9-11—PLEASANTON, CA: Gem Faire Inc, Alameda County Fairgrounds; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: <http://www.gemfaire.com>

9-11—KANSAS CITY, MO: Greater Kansas City Association of Earth Science Clubs, KCI Expo Center; Fri. 10-8, Sat. 10-7, Sun. 10-5; \$6, Under 5 free; Website: www.kcgemshow.org

9-11—VICTORVILLE, CA: Victor Valley Gem & Mineral Club, Along Stoddard Wells Road; Fri. & Sat. 9-5, Sun. 9-4; Free; Website: www.vvgmc.org

9-11—HILLSBORO, OR: Tualatin Valley Gem Club, Washington Co. Fairplex; Fri. & Sat. 9-5, Sun. 10-5; \$1, Under 13 free; Website: www.tvrgc.org

9-11—VIRGINIA BEACH, VA: Treasures of the Earth, Inc, Virginia Beach Convention Center; Fri. 12-6, Sat. & Sun. 10-5; \$5, Under 17 free; Website: www.TreasuresOfTheEarth.com

10—FAIRLESS HILLS, PA: Leidy Microscopical Society, Nothminster Presbyterian; Sat. 9am-3pm; Free; e-mail: don.mcalarnen@hpe.com

10—SKOKIE, IL: Chicago Rocks & Minerals Society, St. Peter's United Church of Christ gym; Sat. 6-9; Free; Website: www.chicagorocks.org

10-11—TURLOCK, CA: Mother Lode Mineral Society, Stanislaus County Fairgrounds; Daily 10-5; \$6, Under 13 free; Website: <http://www.turlockgemshow.com>

10-11—SEATTLE, WA: North Seattle Lapidary & Mineral Club, Crown Hill Center; Daily 10-5; Free; Website: www.NorthSeattleRockClub.org

10-11—SAN ANTONIO, TX: Southwest Gem and Mineral Society, San Antonio Event Center; Sat. 10-6, Sun. 10-4; \$5, Srs/Military \$3, Students \$2, Under 12 \$1; Website: www.swgemandmineral.org

10-11—TURLOCK, CA: Mother Lode Mineral Society, Stanislaus County Fair Grounds; Daily 10-5; \$6, Under 13 free; Website: www.turlockgemshow.com

10-11—FILER, ID: Magic Valley Gem Club, Twin Falls County Fairgrounds; Sat. 9-5, Sun. 10-4; \$2, Under 12 free; e-mail: rmetts@cableone.net

10-11—HADLEY, MA: Connecticut Val-

ley Mineral Club, Hadley Farms Meeting House; Sat. 9:30 -5, Sun. 10-4; \$5, Under 13 free; Website: www.westernmassmineralshow.com

10-11—SPRECKELS, CA: Salinas Valley Rock and Gem, Vet's Hall; Daily 10-5; \$2, children free; Website: salinasrockandgem.pagecloud.com

10-11—SAN MARINO, CA: Pasadena Lapidary Society, San Marino Masonic Center; Sat. 10-6, Sun. 10-5; Free; Website: <https://pasadenalapidary.org/>

10-11—KALISPELL, MT: Northwest Montana Rock Chucks, Flathead County Fairgrounds; Sat. 10-6, Sun. 10-4; \$2; e-mail: oldgrayelf@sbcglobal.net

10-11—KLAMATH FALLS, OR: Rock & Arrowhead Club, Klamath County Fairgrounds; Sat. 9-5, Sun. 9:30-4; \$2; contact Laura Limb, (541)-281-8058

16-18—ALBUQUERQUE, NM: Abq. Gem & Mineral Club, NM State Fairgrounds; Fri. & Sat. 10-6, Sun. 10-5; \$3, Under 13 free; Website: www.agmc.info

16-18—JACKSON, MI: Michigan Gem & Mineral Society, American 1 Event Center; Fri. 10-7, Sat. 10-6, Sun. 11-5; \$4, Srs \$2, Kids \$1, Under 6 free; Web site: <http://mgmsrockclub.com/annual-show.html>

16-18—ARDEN, NC: M.A.G.M.A., Camp Stephens; Fri. & Sat. 9-5, Sun. 10-4; Free; Website: www.americanrockhound.com

16-18—RENO, NV: Gem Faire Inc, Reno Sparks Livestock Events Center; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: <http://www.gemfaire.com>

16-18—SPANISH FORK, UT: Timpanogos Gem and Mineral Society, Spanish Fork Fair Grounds; Fri. & Sat. 10-7, Sun. 10-5; Free; e-mail: jkbrough@gmail.com

16-18—RICHMOND, VA: Treasures of the Earth, Inc., Richmond Raceway Complex; Fri. 12-6, Sat. & Sun. 10-5, Sun. 10-5; \$5, Under 17 free; Website: www.TreasuresOfTheEarth.com

17-18—VANCOUVER, BC, Hastings Centre Rockhounds, Hastings Community Centre; Daily 10-5; Donation; e-mail: squintog10@gmail.com

17-18—DOTHAN, AL: Dothan Gem and Mineral Club, Houston County Farm Center; Sat. 9-5, Sun. 10-4; Free; Website: www.wiregrassrockhounds.com

17-18—SAN JOSE, CA: Santa Clara Valley Gem & Mineral Society, Santa Clara County Fairgrounds; Daily 10-5; \$6, Under 13 free; Website: www.scvgms.org

17-18—MISSOULA, MT: Hellgate Mineral Society, Hilton Garden Inn; Sat. 9-6, Sun. 10-5; \$2, Under 14 free; e-mail: robert.riggs3@gmail.com

17-18—LEMOORE, CA: Lemoore Gem

and Mineral Club, Lemoore Trinity Hall; Sat. 10-6, Sun. 10-4; Free; Website: Lemoore Gem And Mineral on Facebook

23-25—LOVELAND, CO: Fort Collins Rockhounds, Larimer County Fairgrounds, Fri. 4-8, Sat. 9-6, Sun. 10-5; \$4, 12-18 years \$1, Under 12 free; Website: fortcollinsrockhounds.org

23-25—SPOKANE, WA: Rock Rollers Club of Spokane, Spokane County Fair and Expo Center; N.; Fri. & Sat., 10-6, Sun. 10-4; \$6, Srs \$5, Under 13 free; e-mail: showchair@rockrollers.org

23-25—MARIETTA, GA: Bellpoint Promotions, Cobb County Civic Center; Fri. & Sat. 10-6, Sun. 10-5; \$5, Under 16 free; Website: www.bellpointpromotions.com

23-25—EUGENE, OR: Gem Faire Inc, Lane County Events Center; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: http://www.gemfaire.com

23-25—HICKORY, NC: Catawba Valley Gem & Mineral Club, Hickory Metro Convention Center; Fri. & Sat. 9-6, Sun. 10-5; \$5, Under 13 free; Website: cvgmc.com

24-25—PLYMOUTH MEETING, PA: The Philadelphia Mineralogical Society and the Delaware Valley Paleontological Society, Lu Lu Temple; Sat. 10-5, Sun. 10-4; \$5, Children \$1; Web site: www.phila-mineralsociety.org

24-25—ROSEVILLE, CA: Roseville Rock Rollers Gem and Mineral Society, Placer County Fairgrounds ; 800 Sat. 10-5, Sun. 10-4; \$6, Srs \$5, Under 13 free; Website: http://www.rockrollers.com/show.html

24-25—LEXINGTON, KY: Blue Grass Gem And Mineral Club, Clarion Hotel; Sat. 9-6, Sun. 11-5; \$2, Children \$1; Website: www.bggamc.homestead.com

24-25—ANGELS CAMP, CA: Calaveras Gem and Mineral Society, Calaveras County Fairgrounds; Sat. 10-5, Sun. 10-4; \$5, Under 12 free; Website: calaverasgemandmineralsociety.org

24-25—ANTHEM, AZ: Daisy Mountain Rock & Mineral Club, Boulder Creek High School; Fri. 9-5, Sun. 10-4; \$3, Srs/Students \$2, Under 5 free; Website: Daisy Mountain Rock and Mineral Club

24-25—CEDAR RAPIDS, IA: Cedar Valley Rock & Minerals Club, Hawkeye Downs Expo Center; Sat. 8:30-6, Sun. 9:30-5; \$3, Students \$1, Under 12 free; Website: Cedarvalleyrockclub.org

24-25—CHAMBERSBURG, PA: Franklin County Rock & Mineral Club; Hamilton Heights Elem.; Sat. 10-5, Sun. 10-4; \$5, Under 12 free; Web site: Facebook-Franklin County Rock and Mineral Club

24-25—JANESVILLE, WI: Badger Lapidary & Geological Society, Rock County Fairgrounds, at. 9-5, Sun. 9-4; Free; Web site: www.badgerrockclub.org/

Cuyuna Rock, Gem, and Mineral Society General Meeting Minutes February 10, 2018

The meeting was called to order at 2:15pm by Vice President Chuck Durnan. 30 people were present including 3 kids and 5 guests.

Speaker: Kevin Martini on shop machines training and safety.
Kids' Program: wire wrapping, Joanie Hanson

Door Prizes were awarded to: Saliah Kako, Dawn Molaison and Christine Reisz

Reminder to sign up to volunteer at the rock show.

St. Pat's Day parade- not enough interest to march this year.

Aitkin Chamber event-to volunteer contact Bev Williams or Ed Opatz. March 10 & 11. Bev would like some help for this event.

What are Gemstone Inclusions?

Simply put, an inclusion is any material that is trapped inside of another mineral while that mineral forms. For example,

crys-
or gas
even
caused
tive
the host
may
gem-
sions.



researchers constantly discover new inclusions and varieties, a listing of inclusions can never be complete.

Viewing Gemstone Inclusions

Inclusions are instrumental in identifying many gemstone species. Nevertheless, viewing inclusions can be difficult. To study them, gemologists often use a microscope, preferably one with dark-field illumination. While a magnification of 30-60X (the range of most stereoscopic microscopes) may resolve many inclusions, some of the tinier ones require magnification of 200X or more.

Knowing how to use your microscope and various lighting techniques are essential skills for identifying inclusions. However, getting tiny details into sharp focus often

Club "Big Trip"- Marcia will send out to all members a list of possible locations and the club will vote on one.

Franklin Art Space Gathering Aug. 9th - more info to follow.

Spring is coming so please think about places to go picking and let Ed know.

Please plan to help with Kid's Camp June 8 & 9

Started discussion for dates for the 2019 show.

The club is looking for a nice prize for the card drawing at the rock show. If you have something you would like to donate or sell to the club- bring it to the next meeting. The club will pay 50 dollars for an item but it can be worth more than that.

There were several people that brought "show and tell" items.

Respectfully submitted,
Joanie Hanson

proves quite challenging, if not impossible, in some cases. Sometimes, student gemologists can easily jump to conclusions about what they see through magnification.

Learning How to Distinguish Gemstone Inclusions

Discretion is essential. For example, can you make out the inclusion in the garnet pictured below? It's difficult to tell if the ends are terminated or if they're bubbles. As it turns out, they're terminated. This means the inclusion is a crystal. Crystal inclusions indicate a natural garnet, while bubbles would indicate a cheap synthetic. Thus, identifying this inclusion correctly would be critical.

If you can't see an inclusion clearly enough to distinguish its features, don't base an identification on it. If you're in doubt, look at all the available clues. A standard gemstone identification procedure should yield enough information to make a proper identification.

Learning to locate inclusions and distinguish their varieties takes practice. Pictures and descriptions serve only as guides. Gemology students should examine as many gemstones as possible. Use your loupe first and then your microscope. Keep practicing until you're an expert at

16th Annual

2018 Cuyuna Agate & Mineral Show

Saturday, May 5, 9-5

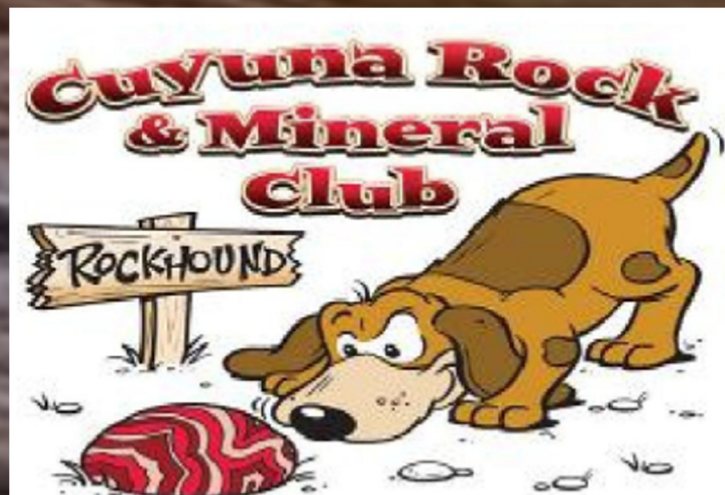
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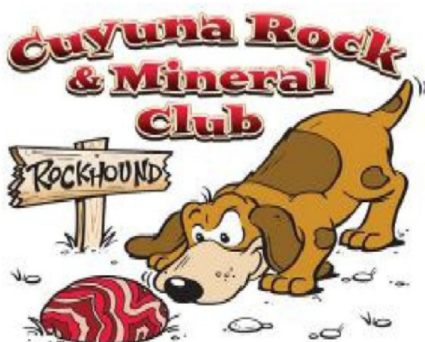
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The Agate Explorer

March 2018

Official Publication of the Cuyuna Rock, Gem & Mineral Society

Members of AFMS & MWF



Notes from the President

If you look at the show flyer on page 7, you will notice something different. Krystle Dorris, from the T.V. show "The Prospectors" will be vending at OUR show! If you have any ideas of how to best promote this exciting addition to our show, please let me know as soon as possible.

Marcia and I have been busy shopping for the Rock Room. There should be a lot of new and exciting rock, slab, and cabochons to buy beginning this spring.

Speaking of the Rock Room, it will be moving across the cafeteria into what was the dishwashing room. We will need help painting that space and moving the shelving and rock that currently there. Can you help? Give me a call!

I have not heard from any of you regarding possible places to pick agates this spring. There will be no agate picks for the Club if we don't have anywhere to go.

It looks like the big 2018 trip will be out west. I think that will include Montana, Wyoming, and Utah. I will begin working with my contacts.

Ed Opatz

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