

NEEDLES GEM & MINERAL CLUB



**P.O. Box 234
Needles, CA 92363**

Editor:
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NEXT CLUB MEETING

March 17 at 6:00 p.m. PDT

**First Baptist Church
1421 Commercial St.
Mohave Valley, AZ**

**Usually 3rd Monday of each
month, Oct-May**

BOARD MEETING

**30 minutes before Club
meeting each month**

Blue Agate News

Volume 3, Issue 3

March 2008

MEETING CHANGES!

New Club Meeting Place and New Club Meeting Day

We are changing our meeting day to **Monday** and we are also changing our meeting location to allow us to have more space for our meetings. The address of the new location is below and there are maps to the location on page 4.

**First Baptist Church
1421 Commercial St.
Mohave Valley, AZ**

March 17 -- 6:00 p.m.

Welcome New Members

Sue Griffiths
Leonard Snyder
Jean Swearingin

INSIDE THIS ISSUE

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NGMC INFORMATION YOU NEED TO KNOW

THE OBJECTIVES OF NGMC

To promote public interest in collecting and studying rocks and minerals.

To preserve and perpetuate the lapidary arts.

To provide field trips to obtain lapidary material and minerals for preservation and display.

To provide an opportunity for the purchase, exchange and exhibition of specimens and materials.

The **NGMC meets** the third Monday of each month from October through May at **6:00 p.m. Pacific Time** unless otherwise notified.

NGMC - 2008

President: Barb Ballard	928-768-6335
Vice President: Pat New	928-768-5640
Treasurer: Ann Ferguson	928-768-7150
Secretary: Sally Hayward	928-768-7437
Past President: Corinne More	760-326-5005
Past President: Knox McCloy	928-768-9064
Auditor: Gisela New	928-768-5640

Sgt at Arms: Knox McCloy	928-768-9064
Field Trip Chair: Corinne More	760-326-5005
Newsletter Editor: Barbara Wiggins	928-453-0948
Refreshment Chair: Lori Clary	928-234-3391
Raffle Chair: Barbara Wiggins	928-453-0948
Facilities Chair: Faith Reed	928-763-3511

HONORARY LIFETIME MEMBERS

George Truitt
Norma Truitt
Myrna Givens
Corinne More
Tom More

Membership dues are payable at the November meeting and delinquent after January 1. Please send dues to the official Club address on the first page of this Newsletter, attention: Treasurer.

This Club is a member of the California Federation of Mineralogical Societies (**CFMS**) <http://www.cfmsinc.org/>.

Membership per person:	\$15.00 year
Name Badge:	\$ 3.75
Field Trip Fee:	\$ 1.00
"No Badge" fine:	25¢

FIELD TRIP GUIDELINES - NGMC

- Leader will state approximately how far, road conditions, and if 4WD is required when each field tripper signs in.
- Each car is to keep the car behind in sight and STOP if the car is not in sight (unless otherwise stated by the leader).
- Field trippers will notify the leader if they are hiking or driving to another site and their approximate return time.
- Field trippers will notify the leader if they are leaving the group and sign out (with time).
- Members wear name badges.
- Handheld radios: stay on Channel 6

The **Blue Agate News** is published monthly except June, July, August and September. Articles are requested to be to the editor by the **15th** of each month, preferably by email at bartobra@hotmail.com or call (928) 453-0948. The Blue Agate News is also published via email - if you have internet, please share your address with the Editor. This saves the club money and you will have the newsletter immediately. The Newsletter is in PDF format so it will be necessary to download Adobe Reader (free program) in order to view the newsletter. You can also view the newsletter on line at <http://needlesgemmineralclub.blogspot.com/>. Please e-mail Barbara with information at bartobra@hotmail.com.

The Blog (Web Log) – **Blue Agate News Online** is free and can be updated frequently October through May. If you have information you want posted, please email it to Sally at rockhound.ngmc@gmail.com or sign up to contribute directly to the Blog. You may access the Blog at: <http://needlesgemmineralclub.blogspot.com/>

UPCOMING FIELD TRIPS & EVENTS

FIELD TRIP REPORT

The field trip to **Burro Creek** is cancelled.

McCracken Mine

March 8

Meet Linda Chandler at 8:30 a.m. MST at Terribles/Burger King located at the I-40 and Hwy 95 exit (that's next door to the Pilot Station). This field trip is about a 160 miles round trip and you will need to travel in a 4-wheel drive vehicle. Bring food, water, hammer and pry bar. You will be looking for silver bearing rock to cab and also for some nice amethyst. Folks, this is a great, fun trip! If you have any questions, give Linda a call at (928) 855-6174.

On February 22, Barb Ballard took 21 members on a field trip to tour the copper mine at Bagdad, AZ. It was a wet and soggy trip as it rained all the way there and all during the tour. This mine does open pit mining and currently runs on an around-the-clock schedule producing both copper and molybdenum. Bagdad is a copper mining community and is one of only two remaining company towns in Arizona with a population of 1,578 at the 2000 census. This mine is currently owned by Freeport-McMoran Copper & Gold Inc., who acquired it when they bought Phelps Dodge in 2007. With this acquisition it became the largest publicly traded copper company in the world.

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Work Day at Blue Agate

March 29

Meet Corinne More at the Blue Agate claim at 9:00 a.m. PDT. You will need chisels, picks and bars for heavy duty work to obtain good pieces of blue agate. If you need directions, call Corinne More or Barb Ballard (see page 2 for phone numbers).



Cady Mountains Near Ludlow

April 11 - 13

Meet Montie Hazen at the Dairy Queen at the Ludlow exit from I-40 at 9:00 a.m. PDT. This will be an exploratory trip of the area led by Montie Hazen (who knows that area inside out). Come out for one day or all three days!



Check the Blog often, as updates are posted when available.

<http://needlesgemmineralclub.blogspot.com/>

2008 Refreshments Schedule

March 2008 – Ann, Dinah, Carolyn
 April 2008 – Barbara W, Ramona
 May 2008 – Season End Pot Luck
 October 2008 – Barb Ballard
 November 2008 – Sandy, Paula
 December 2008 – Christmas Pot Luck

UPCOMING SHOWS

April 4-6 -- BAKERSFIELD, CA: 6th annual show, "Rock and Gem Rendezvous"; San Joaquin Valley Lapidary Soc; Kern County Fair Grounds Carnival lot, 1142 South P. St., corner of Belle Terrace and P. St.; Fri. 9-7, Sat. 9-5, Sun. 9-5; free admission; free hourly drawings, dealers, jewelry, gems, beads, pearls, new and used tools and supplies, demonstrations, arrowhead making, sphere making, wire wrapping, silversmithing, California geology displays, kids' day Fri., gold panning, mining, "Wheel of Fortune," prizes; contact Lynne, (661)323-2663, or Lew Helfrich, (661) 323-2663 or (661) 378-4450; e-mail: lewsrocks@bak.rr.com

April 18-20 -- SAN DIEGO, CA: Gem Faire; Scottish Rite Center, 1895 Camino del Rio S; Fri. 12-7, Sat. 10-7, Sun. 10-5; \$5 weekend pass; contact Yooy Nelson, (503) 252-8300; e-mail: info@gemfaire.com; Web site: www.gemfaire.com

April 26-27 -- LANCASTER, CA: Antelope Valley Gem & Mineral Club; Lancaster High School, 44701 32nd St. W.; Sat. 9-5, Sun. 9-5; free admission; dealers, silent auction, raffle drawing. Contact Jules Ficke, 4233 West Ave. L-4, Lancaster, CA 93536, (661) 943-5157; e-mail: Av_Gem@Yahoo.com; www.geocities.com/av_gem

MAPS TO NEW MEETING PLACE



At the Arrow
First Baptist Church
1421 Commercial St.
Mohave Valley, AZ



SILICON, SILICA, SILICATES and SILICONE

By - Dr. Bill Cordua

University Wisconsin - River Falls

People get confused about the differences between silicon, silicate, silica and even silicone. What is it exactly that we collect, cut and polish?

Silicon is a chemical element, one of the 97 natural building blocks from which our minerals are formed. A chemical element is a substance that can't be subdivided into simple substances without splitting atoms. Silicon is the second most abundant element in the earth's crust, making up about 27% of the average rock. Silicon links up with oxygen (which makes up 55% of the earth's crust) to form the most common suite of minerals, called **silicates**. Quartz, feldspars, olivine, micas, thomsonite, jadeite and prehnite are all silicates. There is so much oxygen around that pure native silicon is almost never found naturally.

Silica is a bit trickier concept. It refers the combination of silicon plus oxygen. The mineral quartz is silica. But so are the minerals tridymite, coesite, cristobalite and stishovite which are mineral forms of silica that are stable at high temperatures and pressures. All these minerals are also silicates. In other words, Quartz is a silicate made up of pure silica. But feldspars contain sodium, aluminum, potassium and calcium in addition to silicon and oxygen. Thus, feldspars are silicates but they aren't pure silica.

Geochemists also use the term "silica" to refer to the overall silicon and oxygen content of rocks. This is confusing, but stems from the fact that in rock analysis the sample is dissolved, the solution treated and the amount of silicon present is determined by precipitating it as silica. So, a geologist may say, "This rock is 48% silica." A rockhound will look at the rock and say, "How can that be? I don't see any quartz in it!" Both are

right. The rock will not have the mineral quartz because the silicon and oxygen are tied up with other elements to make silicate minerals like feldspar. It's a bit like looking at a cake and saying, "I don't see any eggs in there!" The eggs are cake ingredients but are present now in different forms.

Now, what is **silicone**? It's a synthetic polymer of silicon with carbon and oxygen that could be in solid, liquid or gel form. It has all kinds of medical uses, such as in antacids, artificial joints, pacemakers and implants of various notoriety, but is not, as far as anyone knows, found in rocks.

Can pure silicone be found in nature? Yes, rarely. Recently Russian geologists were sampling gasses from Kudriavyy volcano on the Kamchatka Peninsula. Here they drove quartz tubes into vents jetting out gasses of over 900 degrees C. Their tubes filled with minerals precipitating from this gas. Among them were pure silicon metal embedded in masses of salts such as halite. The silicon formed crystals up to 0.3 mm across. It was associated with pure aluminum metal, Si-Al alloys and other rare minerals. This find was unusual enough to warrant a note in the prestigious science journal, Nature.

So, unless you are in Russia sampling hot volcanic gasses, you can be sure that what you are finding are silica and silicates, but not silicon or silicone.

Reference: Korzhinsky, M.A., et. al., 1995, "Native Al and Si Formation", Nature, Vol. 375, P. 544

Source: Leaverite News & Quarry Quips, 10/05, via The Calgary Lapidary Journal, 03/08



BIRTHSTONES

Answers to last month's quiz appear in bold (and in color on your computer):

J R L O R K Z **E** G Y X U T U N M
 S **Z** U P Z E A E **M T O D I R E P**
 I **A** F L B F P N B **E** N R V K O J
 H **P** K C T N C E O J **R** P U M **L** Y
 W **O** N P M M **T** S G D D **A** E Q **R** L
 I **T** X G Y I **A** U O O X F **L** A **A** B
 K **L** **A** **P** **O** M H **Q** **R** D A O A **D** **E** K
 I H C N V F T J **U** **Q** J I Q W **P** P
 M Z B J U A Z **E** P **A** **U** J W R V R
A **M** **E** **T** **H** **Y** **S** **T** **R** **Q** **M** **O** **H** **Z** **I** **Q**
 F **G** B Q L **B** Z D S **I** D **A** **I** Y N G
 A T **A** K L **U** F Z X N **H** **Q** **R** **S** O R
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 B P C C **N** **D** **I** **A** **M** **O** **N** **D** **P** **G** **N** **E**
 V W J K Y **E** N I Q G L J E **A** **T** **E**
 V D Y T L P **T** C T D N V J Y **S** W

DID YOU KNOW

How sedimentary rock is formed?

For thousands, even millions of years, little pieces of our earth have been eroded-broken down and worn away by wind and water. These little bits of our earth are washed downstream where they settle to the bottom of rivers, lakes and oceans. Layer after layer of eroded earth is deposited on top of each. These layers are pressed down more and more through time, until the bottom layers slowly turn into rock. Examples: Sandstone, Limestone, Shale, Conglomerate and Gypsum.

How metamorphic rocks are formed?

Metamorphic rocks are rocks that have "morphed" into another kind of rock. These rocks were once igneous or sedimentary rocks. How do sedimentary and igneous rocks change? The rocks are under tons and tons of pressure, which fosters heat build up, and this causes them to change. If you examine metamorphic rock samples closely, you will discover how flattened some of the

grains in the rock are. Examples: Schist and Gneiss.

How igneous rock is formed?

Igneous rocks are called fire rocks and are formed either underground or above ground. Underground, they are formed when the melted rock, called magma, deep within the earth becomes trapped in small pockets. As these pockets of magma cool slowly underground, the magma becomes igneous rocks. Igneous rocks are also formed when volcanoes erupt, causing the magma to rise above the earth's surface. When magma appears above the earth, it is called lava. Igneous rocks are formed as the lava cools above ground. Examples: Granite, Scoria, Pumice and Obsidian.

Source: Ottawa Lapsmith & Mineral Club, 5/2007 via The Calgary Lapidary Journal, 3/2008

COLOR IN MINERALS

The recognition of colors in minerals goes back to our pre-historic ancestors who used charcoal and iron oxides to color cave paintings which still retain their original intensity.

Idiochromatic minerals are "self colored" due to their composition. The color is a constant and predictable component of the mineral. Examples are blue azurite, red cinnabar and green malachite.

Allochromatic minerals are "other colored" due to trace impurities in their composition or defects in their structure. In this case, the color is a variable and unpredictable property of the mineral. Examples are the blue in amazonite (orthoclase), yellow Heliodor (spudomene) and the rose in rose quartz.

Pseudochromatic minerals are "false colored" due to tricks in light diffraction. In these cases, color is variable but a unique property of the mineral. Examples are the colors produced by precious opal and the shiller reflections of labradorite.

Source: The Rockhound Record, 9/2007, via T-Town Rockhound, 1/2008

Hints 'n Such

These hints were gathered primarily from the bulletins of other clubs. They have not been evaluated for safety or reliability and could be unsafe or could cause damage to your project. Please use caution and safety when trying out any new idea.

more friable and chalky types of turquoise are difficult to polish with cerium or tin oxide; try a muslin buff with stick rouge. Since it is such a porous stone, oil may discolor it, so try sawing with a water coolant after soaking overnight in water. This helps prevent breaking.

Source: Pegmatite, 12/1981, via The Rock Bag, 6/1999

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HOW TO CUT OBSIDIAN

Gold Sheen: Saw with the bands, as if they were a stack of plates and you wish to unstack them. Watch for "fire spots" in gold sheen. It is not plentiful, but opal-like colors do occur.

When tumbling rocks to polish, you can add desert sand to the first grit in the tumbler. Place plain white rice in with the stones for the last polishing. This will do a wonderful job and the rice will keep the stones from chipping.

Source: Southwest Gem, 12/1996, via The Cowtown Cutter, 3/2001

Rainbow: Cut parallel to the flow layers. These can be seen by looking at fractured surfaces using a single lamp directly overhead. Note the bands are not always straight, it may be necessary to turn the stone slightly between cuts. Examine each slab set with either water or saw oil to see if the correct angle has been obtained.

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Iridescent: In cutting the two types of iridescent obsidian, orientation is important. One type is banded and the color lies in the bands. On the other type, the surface has to be chipped to find the color in the conchoidal fracture surface. Cut the banded material parallel to the bands. To get rainbow effects, cut the stone at about 15 degrees across the bands.

One of the cardinal rules in using the tumbler is "do not overload". The ideal tumbling load is slightly less than 3/4 full. Use only enough water to fill the voids between the stones, with no more than 1 / 8 of an inch over the top of the stones.

Midnight Lace: Lace-pattern obsidian should be cut across the surface pattern that you want to reproduce.

Another item that causes difficulty is the amount of abrasive. Use only enough to cover the surface area of the stones. This usually takes about one pound of #100 grit for each eight pounds of rock. This may be further reduced as the #400 and #600 grit is used, as the finer particles possess more surface area, and 3/4 pound of grit with eight pounds of rock is usually sufficient.

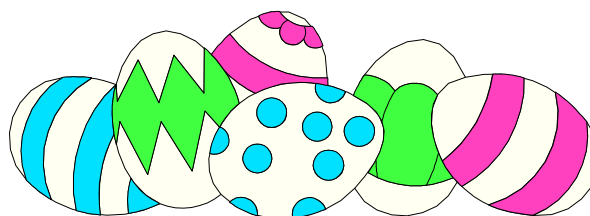
Sand out all scratches with grit and wet sanding (to reduce heat) before going to polish. For final polish, use felt with cerium oxide.

Source: The Tumbler, 11/1995, via Osage Hills Gems, 11/1999

Source: The Southwest Gem, 7/2000, via The RockCollector, 2/2001

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In shaping turquoise, it is advisable to use only the 220 wheel rather than the coarser ones. The 100 grit wheel will take desirable material from such a soft stone. Some of the



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Please send Exchange Bulletins to the address above
Or email to rockhound.ngmc@gmail.com



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