Smoke Signals

Gem & Mineral Club **October 2011**

Club Activities –

Bead Day - Sunday Oct 16th Noon-5 at Readmore Book World and Rock Shop. 1518 15th St Moline, IL 61265. This day will be for beading only. So if you have been waiting to learn beading, now is your chance. For information contact Vickie at 309-764-2653 or 309-235-6128.

October meeting is Tuesday Oct 18th at 6pm**.** Hauberg Civic Center, Rock Island, IL. Elections will be held for next year's board. If none are opposed those nominated will be elected automatically into 2012 board. We will also be discussing how we would like to decorate our Hauberg Christmas room this year.

October show prep: Tuesday Oct 25th at 6pm. Hauberg Civic Center, Rock Island, IL. We will be hauling out for our show on the upcoming weekend.

November meeting is Tuesday Nov 15th at 6pm. Hauberg Civic Center, Rock Island, IL. We will be making decorations to decorate our Christmas room. The workshop will also be opened for lapidary work.

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Upcoming Events:

Oct 1-2, Springfield, IL Lincoln Orbit Earth Science Society (L.O.E.S.S) 2011 annual Gem, Mineral & Fossil Show. Saturday, 10am–6pm and Sunday 10am–5pm. Illinois Building at the Illinois State Fairgrounds Sangamon Avenue and 9th Street, Springfield IL. Featuring a 30 foot Duckbill Dinosaur! And – Gems, minerals, fossils, Jewelry, Carvings, Collectables and More! Demonstrations on: Rock, mineral & fossil identification, Wire Wrapping, Bead making, Lapidary, Flint Knapping, Geode Cracking and More! For Kids: Fossil Dig and Spin & Win Game. Walk-through Fluorescent Mineral Display, Silent Auction, Great Food, Free Parking. Admission: Adults - $2, Seniors 65 & up - $1, Free to Scouts in uniform, 4H groups, children under 12 with adult

Oct 15-16: DES MOINES, IA, Annual Show, Des Moines Lapidary Society, Paulo Knapp Animal Learning Ctr at the Iowa State Fairgrounds, E University Av Gate Des Moines, IA, Sat 10:00-5:00, Sun 10:00-4:00, Contact Steve Cunningham, (515) 262-4578, *steverv@mchsi.com*

Our Fall Show! OCT 29-30:

BLACK HAWK GEM AND MINERAL CLUB FALL ROCK, GEM AND JEWELRY SHOW

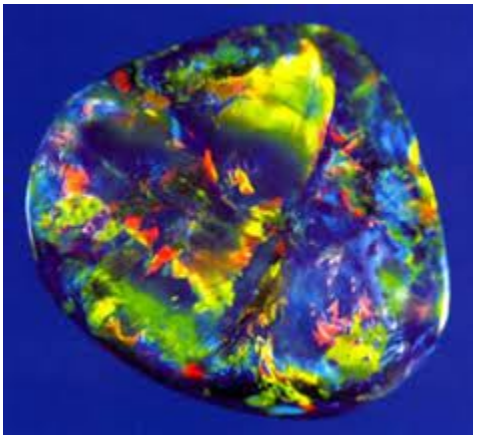
We are in need of volunteers to help man the club table and kids games at our Fall Show. If you can give us a couple of hours sometime between 10-6 on Sat or 10 – 3:30 on Sunday please give Craig or Kellie a call. 563-445-3034. We will also need help with Friday setup of show(table arrangement and club table setup) and silent auction(identifying and deciding min bid) as well as Sunday teardown. Any help is greatly appreciated and needed!

Mississippi Valley Fairgrounds, 2815 W Locust St., Davenport. Sat. 10 a.m.- 6 p.m. Sun. 10 a.m.- 3:30 p.m. The show will feature rocks, minerals, fossils, agates, geodes, tumbled stones, carved stones, beads, silver and beaded jewelry, spheres, arrowheads and much more. There will be demonstrations on Faceting, and Flint Knapping. Learn to make arrowheads. Crack Geodes. Admission is $1 for adults – kids 17 and under are free. For information Call Craig or Kellie at (563) 445-3034

November 12-13: FREEPORT, IL, Annual Show, Northwest Illinois Rock Club, Highland Community College Student Ctr 2998 W Pearl City Rd Freeport, IL, Sat 9:00-5:00, Sun 10:00-4:00, Contact Brian Green, PO Box 396, Warren, IL 61087, (815) 745-2228, *bgreen57@hotmail.com* 4:00, Contact Brian Green, PO Box 396, Warren, IL 61087, (815) 745-2228, *bgreen57@hotmail.com*

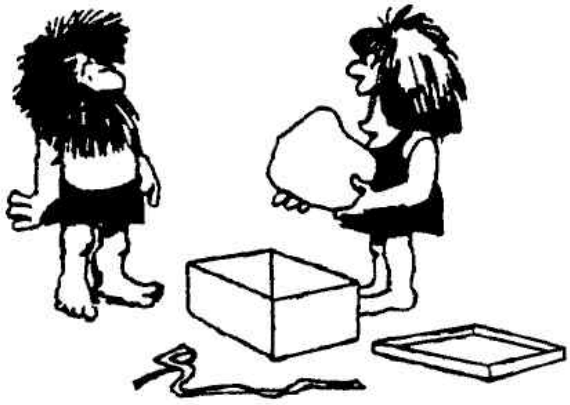
Opal Facts: October's Birthstone

The name opal is derived from "Opalus" which meant "to see a change in color."



The 1st century Roman Pliny the Elder wrote "For in them you shall see the living fire of ruby, the glorious purple of the amethyst, the sea-green of the emerald, all glittering together in an incredible mixture of light". Romans popularized opals: an opal owned by Senator Nonius was so coveted by Mark Anthony that it is said he banished the senator for refusing to sell it to him. Estimated worth in today's currency-$80,000. Since Roman times, opals were carried by their owners as a good luck charm or talisman of good fortune. Royalty prized opals: Queen Victoria wore opals and made them a Victorian fashion statement. Napoleon Bonaparte gave an opal to Josephine named 'the burning of Troy," for its brilliant red flashes.

From Australian Precious Opal: A Guide Book for Professionals by Andrew Cody, 1991 Mount Press Pty. Ltd, Melbourne, Australia
Via The Rock Rattler Oct 2004



"How Sweet... My Birthstone!"

From Rock Chips 1/99

Mexican Fire opal

Mexican Opal is considered a mineraloid and has no crystal structure. The term used for no structure is amorphous. Opal is scientifically written as SiO2 NH2O. It is called hydrated silicon dioxide. Stones that can commonly form Opal are limestone, basalt, rhyolite and sandstone. While Opal contains water, the water content does vary by stone. For instance, Opal has been found with water content approaching 20%; however, most Opal stones used for ornamental jewelry usually have water content of 3% to 10%. Fire opal, like all opal, has high water content. As a result, it should be protected from heat and prolonged exposure to strong light, which could dry it out. Dealers cure fire opal by drying it before cutting to make sure that any instability can be eliminated.

Mexican Opal is rated at 5.5 to 6.5 on Moth's Scale of hardness. The physical structure of Opal is unique. Tiny spheres of silicon dioxide form a pyramid shaped grid interspersed with water. Tiny natural faults in this grid cause the characteristic "play of color" – opalescence. The effect is similar to the rainbow colors displayed on a soap bubble, only much more dramatic. The incredible play of color is exhibited by the gemstone due to the presence of small spheres in the silica gel that causes interference and refraction appearance. Silicon and oxygen chains are packed in the spheres and these are uneven in size and incoherent in concentration. These are set in a compact structures thus, when ray of light falls it dissects the light on its way through the stone resulting in the awesome color play. As per the size of the spheres within the structure,

changeable colors of the gamut are diffracted. With the increase in the consistency of the spheres position, more intense and brilliant would be the color play.

Mexican opal that displays play of color but is rare because volcanic opal forms relatively quickly and the spheres of silica rarely have time to settle into the diffraction grids that create play of color.

Fire opal glows with the fire of the sun: hot honey yellows, oranges, and reds so bright they look as though they might glow in the dark. Fire opal sometimes does have opalescence or play of color like other opals but it does not need this to take a starring role in jewelry

Its juicy color is just the right accent to earth tones or black and also looks great paired with other bright tones

Cut

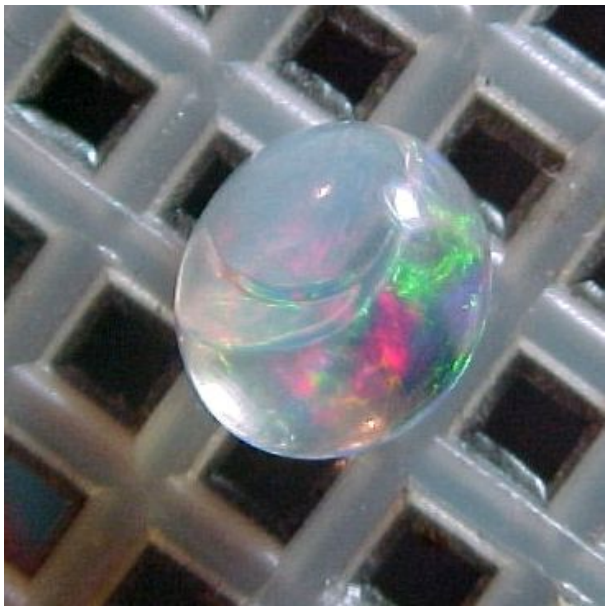
Fine Opal stones are cut and polished to round or oval cabochons or other softly domed shapes so as to display the best color. Cut is a very important characteristic of Opal, as the beauty of the crucial feature (i.e. color play) of the stone is dependent on its cut. The cut of the stone is the key to revealing its magnificence. First, the cutters remove the inclusions present in the stone with a diamond cutting wheel. Next a soft dome shape is given in order to bring out the fine color play. After cutting, the finishing is done using sandpaper, and finally the polishing is done with the help of a wet leather wheel. Jewelry designers can get many desirable cuts or the shapes from this striking stone. Oval, circular and round cabochons are preferred as in these shapes 4 the color play is displayed at its best. Some other popular shapes are teardrop, square, rectangle and triangle etc.

Unlike most opal, fire opal is often faceted, so you can choose sparkle as well as color. Because it is light as well as bright, fire opal is especially good for earrings, where even small sizes have a big punch of color. Only the very finest qualities of Fire Opal are suitable for faceting.

Treatments

Opal is a soft stone and therefor is occasionally treated or impregnated with colorless oils, plastic, resin or wax which act as a bonding agent, reduce the visibility of the inclusions and improve the overall clarity of the stones. Black Opal is occasionally treated with chemicals, smoke, or dye. Opals are also sometimes backed with foil, black paint or lacquer. Thin opal is often made into doublets or triplets by covering the back and front.

Via The Pica Pick Sept 2011 Volume XXXVII Issue No. 1



Bench Tips by Brad Smith

REMOVING A STONE FROM BEZEL SETTING

If you've forgotten to use dental floss and got your stone caught in a bezel, there's one thing you can try before starting to pry. Find some sticky wax or beeswax. Roll it into a pencil-sized cylinder and stick the end onto the top of the stone. Mold it on well and yank.

If all else fails, you either have to very carefully pry open the bezel with a sharp knife blade or drill a small hole in back of the stone and push it out with the point of a scribe.

MAKING YOUR OWN MOKUME

Ever think about making your own mokume? Here's a link to the detailed steps in the sequence as done by a professional. Look for mokume on http://www.rchristopher.com/tech/

FOREDOM STAND

A quick and easy way to suspend a Foredom over your jewelry bench is to use some steel pipe components from your local hardware store. It attaches with a couple screws and costs a little over $10

I use ½ inch galvanized pipe and fittings. To build a stand that attaches to the top of your bench, all you'll need is a flange and a thirty inch length of the pipe. If you prefer a stand that attaches to the side of your bench, you'll need a little longer pipe, three foot, a flange, and a 90 degree "street elle".

Finally, make a hook that goes into the top of the pipe to hang the motor from. You can use heavy coat hanger wire or better yet, a 1/8 steel rod from the hardware store.

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Acknowledgement to be included with each publication:

More BenchTips by Brad Smith are at
groups.yahoo.com/group/BenchTips/
or
facebook.com/BenchTips

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SUMMER ROCKHOUND

By - Cindy Lind

The 'Skeeter and the Rockhound both
Went out to hunt one day.
The Rockhound wanted specimens,
The 'Skeeter wanted prey!
The Rockhound found a likely spot
And settled with his gear,
He'd dug a short time when he hears
A buzzing in his ear.
The Rockhound swatted at the noise
And stood to look around.
He missed the 'Sketter but he saw
A great stone on the ground!
The Rockhound bent to lift the stone
His backside in the air.
The 'Skeeter took advantage then
And bit the Rockhound there.
The Rockhound jumped and squashed the bug
His bottom to defend.
The Rockhound and the 'Skeeter had
Both got it in THE END!

From Gulfport Gems 07 / 08 Via Beehive Buzzer 09 / 08
Via THE *CALGARY LAPIDARY JOURNAL* OCT. 2008

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Lapidary Tip

To identify and grind out pits in the cabochon, spray the rough cab with red enamel from an aerosol can, then grind the paint off with a light touch. Pits and lines will stand out as bright red spots, making it unnecessary to wipe the cab to see if the pits are out. This is especially helpful when grinding freeform cabs from Fire Agate.
Source: *The Petrified Digest* 1/99

Tip for Silversmiths

Draw your jeweler's saw through an old candle. It coats the blade and you can saw faster. Wipe a piece of chalk over your jeweler's files. It keeps metal slivers from clogging the file and you can blow them out. Avoid scratches in silver you are working on by covering it with transparentcontact paper. You can mark and saw with the paper on.
Source: *The Petrified Digest* 1/99

These tips via the *Sooner Rockologist*

Fiber Optic Gems: What Are They?

By Bill Grimes

Fiber optics were developed as a result of someone studying a piece of the mineral ulexite.
Also known as TV stone, it is a hard, brittle, fibrous stone which-when writing is placed underneath- will allow the image to appear on the surface of the stone. This led to the theory that if this type of fibrous material could be manufactured, it could be used in many different ways where image transmission is needed. Fiber optic cables were at first very slender and flexible, used in surgeries and in household decorations. The manufacturing technology improved and soon manufacturers were spinning out miles of cable for a new application, data transmission lines. These lines can be up to two inches across. The cable consists of thousands of pairs of optic fibers. Each pair carries data for phone, computer, fax, etc. Since the sides of the cable are reflective, there is no need for insulation or shielding around each fiber, as in old phone lines. This translates to more pairs in a smaller space.

For us in the hobby, this created one of the newest gem treasures. In order to make a fiber optic cabochon, the cable scraps are first cut into small lengths. The cable is then either cut into spheres, or it is sectioned parallel to the length of the fiber, once the slices are made, it is cut much like any other gem. Care must be taken, however, to protect the ends of the cable from splintering, or catching dirt, abrasives, etc.

There is an interesting thing about fiber optic gems. If you look at them from a 90 degree angle from the eye of the gem, the gem will be transparent to light, maintaining its properties for light transmission.

Originally from *Rockhouse Roundup*, 3/99; via the *BEMS Tumbler*, 7/04; via *Golden Spike News* 8/04; via *Stratagem* 1/05 Via *The Rock Rattler* Jan 2005

One nice thing about fiber optic for us is that it is not very costly. These 40mm spheres were listed on ebay for a buy it now of $24.99. That is for 12. Wow.

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FRACTURE or CLEAVAGE
Do you know the difference?
If a crystal is broken and the break is irregular, it is said to have a **fracture.**
If the break occurs along a plane and parallel to a crystal face, it has **cleavage.**
Cleavage is caused by the internal structure and varying strength of bonds between planes of different atoms, e.g. the cleavage of mica into thin sheets is called perfect cleavage.

THE *CALGARY LAPIDARY JOURNAL* APRIL 2011

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WHAT'S A HEXAHEDRON ?

Don't let these long crystal names give you trouble because it's very simple if you follow and memorize a few simple rules. First, you break the word down into syllables and leave off the last syllable - **hedron**. Just remember that this means **face**. Now memorize the following five prefixes:

Tri - Three, Tetra - Four, Hexa - Six, Octa - Eight, Dodeca - Twelve.

As an example, take the word Tetra-hedron: you have hedron which means face, and Tetra which means four, Thus a Tetrahedron is a four-faced figure or crystal. Try the word Hexahedron - Hexa for six and Hedron for face: so you have a six-faced figure or crystal.
Now lets try a word with two prefixes before hedron. As an example, Tetrahexahedron. In this case, where there are two prefixes, you simply multiply the first by the second. You have tetra for four, times hexa for six and a hedron - so you have a twenty-four FACED CRYSTAL FIGURE.
Now try Hexaoctrahedron: Hexa (6) x Octa (8) or a 48 faced figure. Simple isn`t it ?

THE *CALGARY LAPIDARY JOURNAL* APRIL 2011

Moganite

A Common Mineral with a Disapproved Name

Mineralogists assume that they have described the common minerals of the crust. They also pride themselves on having a rigorous international system for approving new mineral names to assure the names that get into print really do represent uniquely different minerals. Recently both of these assumptions have been thrown into disarray by a mineral called "moganite". Moganite turns out to be so common that virtually every Rockhound has unknowingly found, polished or bought it.

Moganite refers to a mineral closely related to quartz. Quartz is SiO2 and crystallizes in the hexagonal system. Moganite is also SiO2, but it crystallizes in the monoclinic system. It was discovered in 1976 by a group of geologists lead by the Russian O. W. Florke. This team was studying the rocks near Mogan in the Canary Islands and found it as fine-grained gray fibers intergrown with chalcedony and opal in cracks in the lava flows. Magonite's physical and X-ray properties are almost identical to quartz.

Florke submitted a description of moganite to the International Commission on Mineral Names and Naming (I.C.M.N.N.), who disapproved of it. They felt that not enough evidence was presented to show that moganite was not simply a mixture of quartz and other minerals. Florke and his coworkers then committed a cardinal mineralogical sin by publishing their data, using the name moganite as though it had been approved. They published more articles on moganite over the next decade, proving it was a unique mineral. They never resubmitted their data to the I.C.M.N.N. The I.C.M.N.N. just as stubbornly refused to approve the name without such an official resubmission. So goes mineralogy politics!

A recent article by Peter Heaney and Jeffrey Post in Science added insult to injury. They reported finding moganite in nearly all of the 150 samples of fine-grained quartz they tested from the Smithsonian's mineral collection. Some samples contained over 75% moganite mixed with quartz. Chert had the most moganite. Flint contained 13-17% moganite. Agate had 5 to 20% moganite. Silicified corals from the Tampa Bay area in Florida averaged 20% moganite. The only samples found with no moganite were jaspers from iron formations, the weathered outer rinds of agates and Arkansas novaculite. Clearly moganite is a very overlooked mineral.

Why moganite forms is not known. In the Canary Islands it forms under extremely dry surface conditions. Since moganite is more soluble than quartz, it leaches out of chalcedony, which could account for chalcedony's lower density and higher permeability.

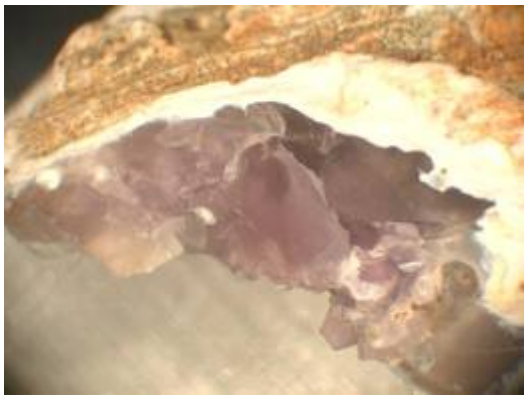
Here is a mineral we all have that doesn't have an approved name. What is a conscientious mineral collector to do? We'd best just label things "quartz", "agate" or "chalcedony" until the semantic dust settles.

Dr. Bill Cordua, University of Wisconsin – River Falls.

References:
Florke, O.W., U. Florke and U. Giese, 1984, "Moganite: a new microcrystalline silica mineral", Nues Jahrb. Mineralogy, vol. 149, p. 325-336.

Heaney, Peter and Post, J.E., 1992, "The widespread distribution of novel silica polymorph in microcrys alline quartz", Science, vol. 255, p. 441-444.

Via: *Rock Chatter* Publication Sept 2011



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The purpose of this non-profit organization is to promote interest in collecting, studying and working with gems and minerals and fossils. Organized in 1955, the Black Hawk Club joined the Midwest Federation of Mineralogical & Geological Societies in 1959. It is also a member of the American Federation of Mineralogical Societies. Meetings are held on the third Tuesday of every month, September through May at 6:00P.M. in the Hauberg Civic Center, 1300 24th Street, Rock Island, IL. Picnics are held at various locations during June, July, and August. Annual Dues: Individual Membership: $15.00, Senior Couples: $12.00, Senior Individual: $10.00, Family: $20.00.

Contributions: Submissions (announcements, photographs, notes, letters, articles, etc.) are actively solicited from BHGMC members. Copyrighted material submitted for publication must be accompanied by a written release from the copyright holder. All material submitted is subject to editing. Unless previously arranged, all submissions become property of the Black Hawk Gem & Mineral Club, Inc. When requested, original and personally-written articles will be published with a copyright notice in the author's name, otherwise all submissions will be published without individual copyright. No anonymous submissions will be considered; however, the submitter's name will be withheld or a pseudonym may be used at the submitter's request. The deadline for all submitted work is the 20th of the month before it is to be published. Late and\or unused entries may be published in later issue.

Editor: Kellie Moore 718 Franklin Ave, Davenport, IA 52806.

Disclaimer: The conclusions and opinions expressed in *Smoke Signals* are those of the authors and do not necessarily represent those of the Officers, Editor, or members of the club.

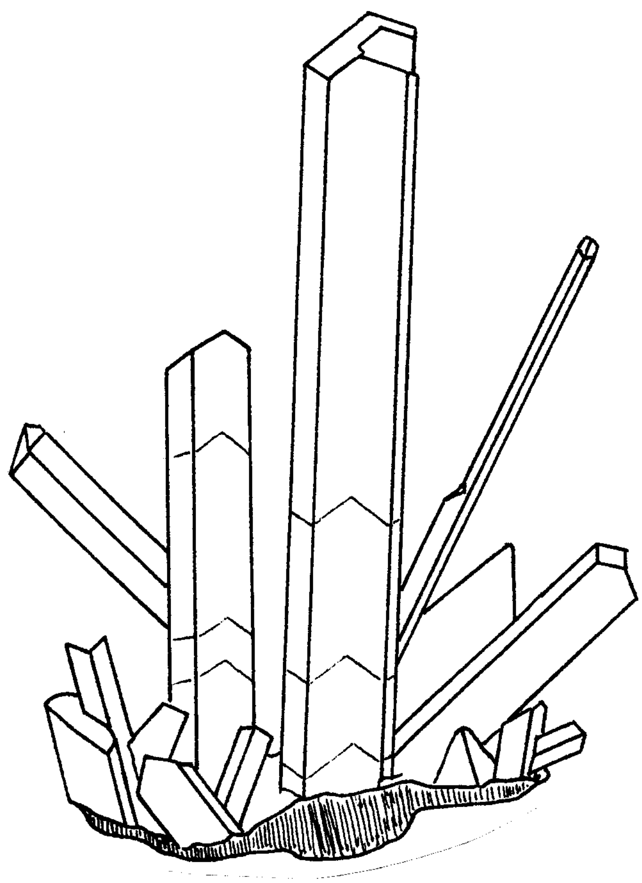
Visit us at:
www.blackhawkgemandmineralclub.com

Affiliations
Midwest Federation of Mineralogical & Geological Societies

http://www.amfed.org/mwf/

American Federation of Mineralogical Societies

http://www.gamineral.org/afms.htm



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Black Hawk Gem and Mineral Club, Inc.

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