



Smoke Signals



Gem & Mineral Club

January 2012

Club Activities for January --

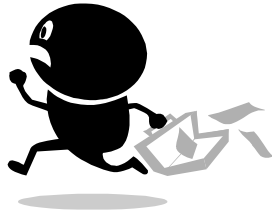
January Club Meeting. Our next meeting is Tuesday Jan 17th at Hauberg Civic Center in Rock Island, IL at 6pm. We welcome show and tell, or if you need help identifying a rock in your collection. We can discuss what we want to do this year as a club. We will also welcome in our new board members. Hope to see you all there.

Dues are Due --

Membership dues for 2012 are due; If you have joined the club September or later this year your dues are already paid. Please mail your check to:

Kellie Moore
718 Franklin Ave Davenport. IA 52806

Individuals - \$15.00
Senior Individual - \$10.00
Senior Couple - \$12.00
Family - \$20.00



Upcoming Events

March 2012

10-11: MACOMB, IL, 32nd Annual Show, Geodeland Earth Science Clubs, Student Union Ballroom, Western Illinois University, Murrat St, Sat 10:00-6:00, Sun 10:00-5:00,
Contact Regina Kapta, 1483 E Wood St, Decatur, IL 62521, (309) 830-6516, cigmc@comcast.net

17-18: Cedar Rapids, IA, Gem, Mineral and Fossil Show, Cedar Valley rocks and Minerals Society, Hawkeye Downs 4400 6th St SW, Cedar Rapids, IA
Contacts: Marv Hoag (319) 364-2868, or Bob Roper (319) 377-2042
www.cedarvalleyrockclub.org

January Birthstone

Garnets, also Rose Quartz adapted from <http://www.galleries.com/minerals/silicate/birthjan.htm>

January's birthstone is the garnet. It has high indices of refraction, is hard, has pretty colors, is transparent, lacks cleavage and is durable. Those traits make it a good candidate for a semi-precious gemstone, but it is still considered inferior to other colored gems. Probably this is due to garnet's abundance and widespread use which brings a low price. Garnets are greatly variable in colors and varieties, and many of these are both rare and beautiful, producing genuinely precious gemstones. Some garnets are truly unique in the mineral kingdom and have much to offer as both gemstones and mineral specimens. The most common crystal shape for garnets is the rhombic dodecahedron, a twelve-sided crystal with diamond-shaped (rhombic) faces. This basic shape is the trademark of garnets. Most garnets are red in color, but there are many other colors.



The grossular can have a wide range of colors, and uvarovite is always a bright green. As a mineral specimen, garnets usually have well shaped and complex crystals and their color and luster can make for a very beautiful addition to a collection.

ALMANDINE reddish brown to brown
ANDRADITE brown, black or green
GROSSULAR colorless, orange or green
PYROPE dark red to ruby red
SPESSARTINE orange, pink or brown

LAPIDARY HINTS & TIPS

Grinding & Sanding

Before grinding and sanding cabochons, put **cold cream** on and rub them together until they are dry. This fills the pores and cracks in your fingers. When grinding, sawing or sanding is completed, the dirt can be washed off easily.

When grinding and sanding **obsidian**, always grind from the center out. Otherwise the wheel and sanding belts will pick up tiny chips of glass that will scratch your stone.

A speedy sanding tip.

One day I found the sandpaper on my sanding drum was worn down to such an extent that it would not remove the grinding marks from a cabochon. I had no extra paper on hand and had to finish the cab as it was for a gift. SO - I thought I'd try the loose grit for sanding. I placed a wet sponge under the sanding drum so that the worn out sanding belt came in contact with the sponge. This kept the paper moist but not too wet. I turned on the motor and began sanding. The results were wonderful! I had to dip the stone in the grit a few more times before finishing. I sand all my cabs this way now, as it is faster and better. When I replace the paper, I never use a grit coarser than 400.

The secret of hiding **fractures** in a cab with epoxy is to shape your stone and semi-polish it. Heat the stone to 200 degrees in an oven. Mix epoxy and apply to one end of the crack and work towards the outside of the cab so that the air in the fracture is driven out and the resin replaces it. You will note the epoxy becomes very fluid when it touches the hot stone and flows right into the crack. Put the stone back in the oven for 20 minutes for the epoxy to harden. Scrape off the surplus and proceed with your final polish.

From assorted newsletters
Via The RockCollector & Blue Agate News 05 / 08
THE CALGARY LAPIDARY JOURNAL OCT. 2008

Rockhound Scramble

The following words are scrambled and are "Rockhound Related". Each word is either a form of rock, fossil or gemstone! HAVE FUN!

1. GAWYDU ODGEE _____
2. ULEB NELOHCDYAC _____
3. NBFURAIR TAGEA _____
4. ZLBIANRA GTAEA _____
5. DAREMLE _____
6. DFIPERITE ODOW _____
7. QSUEIOTRU _____
8. NATSEPRIA _____
9. POAL _____
10. TMONANA GATEA _____
11. HSMYATET _____
12. IRPIAER EATAG _____
13. TIPODER _____
14. BYRU _____
15. TELOBIRIT _____
16. NAGRET _____
17. NAMDOID _____
18. SNETOLDGO _____
19. CRINITE _____
20. SILSFOS _____
21. HIPSAPER _____
22. PAZTO _____
23. PIALS ALIZUL _____

VIA Show Me Rockhounds 11/2011
(For answers, see pg9)



Soapstone

The Chinese have treasured soapstone for centuries and used it to carve their delicate figurines. The Eskimos use it to make lamps and cooking pots. In ancient Babylon, it was used to make signet rings and other items of jewelry. In North America, the early pioneers used it to make laundry tubs. But this is not why it was called soapstone. The mineral gets its name because the waxy polished surface looks and feels like soap.



Geologists classify soapstone as a hydrous. Magnesium silicate and call it a steatite mineral related to talc. Its main ingredients are magnesium oxide, silicone and moisture. It is one of the softest of stones, easily carved with a knife. Its color may be pearly or bluish gray, milky white or pastel yellow. A few rare samples are a vivid apple green. Some are opaque, others are translucent like foggy glass.



Since early times, artists have treasured its lovely colors and soft carveable qualities. It makes

durable lining for boilers and electric furnaces because it insulates both heat and electricity. It resists all stain and corrosion. As a filler ingredient, powdered soapstone gives body to certain papers and paints and a spreading quality to face powder.

Soapstone is classified as a metamorphis rock, a mineral completely altered from its original form by tremendous forces within the earth's crust. The original mineral was most likely lava, rich in magnesium and silicates fused in the furnace of some ancient volcano. For ages it was furied amid the enormous pressures gradually remodeled and refined its texture. The original mineral was metamorphosed, completely changed into something quite different. The various colors were added by traces of magnetite, chlorite, mica and other ingredients that seeped into the recipe.

Considering its long history of hardships, it is not surprising that soapstone has learned how to resist heat, electricity and corrosive acids. But it is surprising that the lovely soft material is not marred by its past experiences.



Most of the world's steatite minerals are mined in North America, and both soapstone and talc, its somewhat softer relative, are found in the western mountains of California. More massive deposits are in the eastern Appalachians. Near Sohyler, Virginia, the soapstone mines are along a belt 30 miles long and occurs in blocks, some thicker than 300 feet and more than 1,500 feet long.

Via The Rock Box, Via Show-Me Rockhounds 11/2011

Labradorite

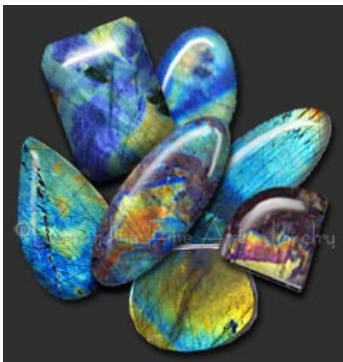
By Dave Jacobson

This month our mineral is Labradorite, calcium sodium aluminum silicate, $\text{Ca}_{50-70}\text{Na}_{30-50}(\text{Al},\text{Si})\text{Al}_2\text{Si}_2\text{O}_8$. Labradorite is in the Silicate class of minerals, subclass Tectosilicates, Feldspar group, and Plagioclase series. Labradorite is notable because of the colorful labradorescence or “shiller” which can be observed when light is reflected at the correct angle across the surface of the mineral. The shiller can range from the blues and violets through greens, yellows and oranges. Labradorite is found in metamorphic rock in Norway, Labrador and the Scandinavian Peninsula. Minerals associated with Labradorite are biotite, pyroxene and hornblend. Labradorite is in the triclinic crystal system but is rarely found as individual crystals. The crystal habits include blocky crystals that are rarely free of the host rock which inhibits viewing the full crystal form. Twinning of the crystals is common. Its color is gray to smoky black. It has a dull to vitreous luster. The crystals are transparent to translucent. It has a conchoidal fracture. When cleaved it forms nearly right angle prisms as the cleavage is good in one direction and perfect in another direction.



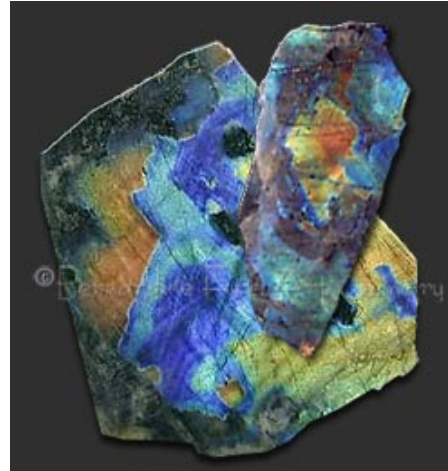
Labradorite cabs

Hardness is 6 to 6.5 with a specific gravity of 2.70 to 2.74. It has a white streak when tested on the streak plate. One of the best field indicators for labradorite is its labradorescence (shiller). Labradorite is collected as a mineral specimen and in jewelry making. Industrial uses are in ceramics, glazes and basic refractory's. Labradorite is sometimes used as a free stone in building.



Spectrolite(Labradorite) from Finland

Labradorite takes its name from Labrador, one of the locations where it is found. I used the following reference materials in preparing this article.



Slabs

Field Guide To Rocks And Minerals by Frederick H. Pough. Mineralogy For Amateurs by John Sinkankus. Simon & Schuster's Guide to Rocks and Minerals. The Audubon Society Field Guide To Rocks and Minerals. Amethyst Galleries Mineral Gallery on the internet (address <http://mineral.galleries.com>)

From Canaveral Moonstone January 2010, Via: STONEY STATEMENTS JANUARY 2010

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In Memory of:

We lost two of our lifetime members in November 2011.

Thelma Smith- who was a retired school teacher could often be found volunteering her time to help out at the club table at our shows.

Allyn Adams – was known for his great fossil displays. He would always volunteer a few of them to display at our club shows. They were stellar.

In December 2011 we lost **Delores Bates**. She too was a lifetime member who was very active with the club until health reasons prevented her from doing so a few years ago. She served many years on the board in several different positions the longest of which was as club treasurer. She also headed the admissions and club table at our club shows drumming up volunteers and giving of her own time usually for the whole weekend.

Websites of the Month

The website of the month follows through on Ed Peterson's article about the "incognitium" fossil. Thomas Jefferson is widely known for his participation and formulation of the new government (the Declaration of Independence) as the United States came into being, but he also had a wide intellectual range, from architecture to science, and especially fossils. We are fortunate that Jefferson's collection and papers are available on line.

The following web page and its links to additional pages demonstrate Jefferson's interest in paleontology and gives a quick overview of the issues of the time concerning extinction and the emerging science of fossils.

<http://www.ansp.org/museum/jefferson/index.php>

Word of the Month

Often the collector of fossils has a narrow focus: the preserved evidence of ancient life. Another related issue is of great importance as well, but not often discussed in depth, related to the occurrence of fossils: the study of how fossils form and the environmental conditions associated with fossil formation.

Taphonomy is the study of decaying organisms over time and how they become fossilized (or not). Russian scientist Ivan Efremov wrote in 1940 of his study of the transition of living organisms and products of life from death to fossil remains. The term applies equally well to the survival and study of archaeology artifacts. This study focus is critical to understanding the fossil record, because a living organism that is not resistant to decomposition will not be found in the fossil record.

Via Central Iowa Mineral Society News Nuggets
Volume 62 Number 9. December, 2011

BENCH TIPS BY BRAD SMITH

BTW - If you like opals, you may want to look at <http://www.justluxe.com/community/worlds-largest-opal-matrix-found-in-australia-a-1669977.php>

However, the American Opal Society points out that this is definitely not the largest ever found.

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SHARP KNIVES FOR CUTTING MOLDS

Cutting molds is easier and more precise with a sharp blade. A new Xacto blade is sufficient for cutting RTV molds but is usually not sharp enough for vulcanized rubber. For that it's best to use scalpel blades available from most jewelry supply companies. The #11 blade is triangle shaped, and the #12 is hawksbill shaped. I find the hawksbill is particularly nice for cutting the registration keys of the mold.

USE YOUR THUMB

When using multiple bits in your Freedom, you often have to deal with several different shaft sizes - the usual 3/32 inch burs, the larger 1/8 inch shafts sizes and of course many different drill sizes. For some reason I really dislike having to turn the key multiple times to open or close the jaws of the handpiece chuck.

There's nothing you can do to avoid multiple key turns when opening up the jaws, but there's a neat trick to close the jaws around a smaller shaft. Hold the new bit in the center of the open chuck jaws, put your thumb lightly onto the outer toothed collar of the chuck, and gently start up the Freedom. As the chuck turns, it will naturally tighten the jaws around the shaft of the bit. Then all you have to do is a final tightening with the key.

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Acknowledgement to be included with each publication:

More Bench Tips by Brad Smith are at
groups.yahoo.com/group/BenchTips/
or
[facebook.com/BenchTips](https://www.facebook.com/BenchTips)

Titus and the Glittering Flakes

Dr. Bill Cordua, University of Wisconsin-River Falls

About 2500 years ago, everyone knew that Titus was the person to ask if you had an odd rock. His shop in Athens was legendary, crammed with the rare and marvelous. One day, Titus traveled to the wild lands of Macedon to check on some reported finds of tin ore. He had been sent by Pericles, to find if it was a resource that needed to be protected from the Persians. Even though his journey was to be kept secret, his identity did become known on his way back, and he was sought by several to look at what they had found. Many were fooled by materials they thought to be gold, but which could be crushed readily to a black powder, showing it to be merely pyros.

One morning, as Titus and his servant, the cadaverous Aegirine, were breaking camps on the foothills of Oros Vemio, a portly gentleman hurried up and haled them.

“Are you Master Titus of Athens?”

Aegirine stepped forward, brandishing his staff, “Who wished to know?”

“I am Oeneus. If that is indeed the famous Titus, I have a wonder to show him.”

Titus said, “I am Titus. Pray let him come forward, good Aegirine and tell his tale.”

“There is a stream near here”, said Oeneus, “It’s bed is full of flakes of gold. But as we try to pan it, the flakes float out instead of settling. If you can tell us how to work it, we will reward you handsomely.”

“ I must see this river. Please lead on”. As they made ready to go, Aegirine hissed in Titus’ ear, “Now don’t buy anything from him.”

They walked a short distance over several ridges, then down into an open meadow through which bubbled a clear gently flowing stream. The stream emerged a short distance to the south from a dark canyon cut through massive rock. The bed of the stream was indeed covered by many flakes of a gold to bronze colored

substance that glittered in the early morning sun. Two slaves were ineffectually at work wading the stream and trying to hand pick the flakes from the wet sand.

“See here,” said Oeneus, scooping some sand into a ceramic pan and agitating it into the current. The golden flakes took off like leaves in a breeze and wafted out of the pan. “It is impossible to concentrate them. That’s why my slaves are picking them out by hand. How can gold behave thus?”

“Because it is not gold.” Said Titus.

“Why do you say that?” demanded Oeneus.

“Because if it floats off in such a way, it cannot be gold. Let’s have a look at some and I’ll see if I can tell what it is.”

Grumpily, Oeneas motioned a slave forward who had laboriously gathered some of the flakes. Titus took some and sprinkled them on a flat rock. He took a second rock, ground the flakes between the two, and then examined the result.

“Look how this breaks. It crumbles as gold will not. Also see how light can penetrate through these this pieces. This is not gold at all, but rather a form of speklopoisos. It has little value.”

Oeneas took this news stormily, “I know gold when I see it. You just want to discourage me so I’ll leave and you can take it all for yourself. “

Titus laughed. “No, thank you. You are welcome to it. Carry on as you wish. We are late getting on the road to Athens.”

Oeneas drew up his slaves so they separated Aeneas and Titus from the stream. “We’re no fools! We’re staying!” Oeneas yelled, then began cursing them.

His yelling voice could still be heard in the distance as Titus and Aegirine once more came upon the Athens Road.

- O.K. you 21st Century mineral people, what mineral formed the glittering flakes in the stream?

Via Rock Chatter, January 2012

Large Crystals of Arizona:

How about eight-inch pyrite crystals, that are reported from the Three R mine, Patagonia Mountains, Santa Cruz County. Or six-inch or larger wolfeinite crystals reported from the Glove mine, Santa Cruz County. Maybe everything is bigger in Santa Cruz County?

Staying with the Santa Cruz theme, quartz crystals up to two feet long from the Belmont and Lead King properties. Of course, large quartz crystals are found many places.

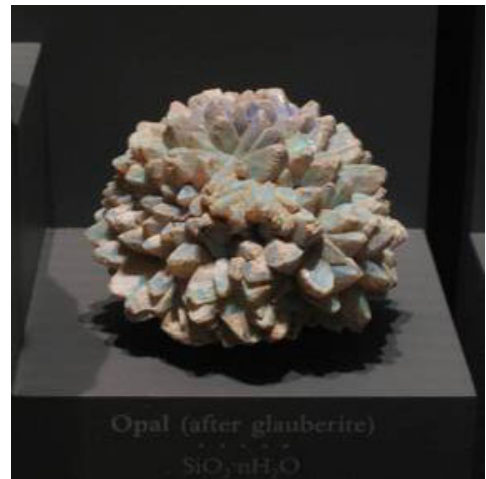
The largest crystals are found in pegmatites. These crystals may set records, but usually are not great looking and make good yard rock. For example, beryl as bluish-green crystals up to nine feet long, from Groom peak, the G and M pegmatite, located 15 miles southwest of Wickenburg, Mohave County. I went looking for this one, but never found the mine. Spodumene crystals up to 21 feet long found in the White Picacho district, Maricopa County. One of the best minerals found in pegmatites is gem tourmaline (elbaite).

Several times I have heard stories (but have never seen specimens) about good pink tourmaline from Arizona (maybe even gemmy crystals). They are reported, not from the White Picacho district, but from west of Wickenburg. I have not looked in that area, but here are a couple of possibilities: the Spodumene Nos. 1 and 2 located in the SE part of T7N, R4W and Vulture Spodumene deposit near the center of T6N, R5W. There are at least 10,000 mines, prospects, other places of interest to mineral collectors around Arizona and at least one of them has something great that has not been found.

By Dr. Raymond Grant via The Rockhound Record 12/2010, Via Show-Me Rockhounds Dec 2011.

Opal Trivia

- Opal is Australia's national gemstone.
- Virgin valley Black Fire Opal is the official precious gemstone of Nevada since May 27, 1987.
- Some Virgin Valley opals are very thirsty. They will stick to sweaty hands or your tongue.
- Opal that displays iridescent color patches is called noble opal or precious opal and the phenomenon of iridescent color patches is called play-of-color or fire.
- Common opal or opalite usually refers to opal that does not have play-of-color/fire, except fire opal from Mexico. The fire opals from Mexico are so named because they have lots of fire, but because of their body colors that range from clear to cherry red.
- Some transparent opal displays iridescent color patches only when light is shone through it. This kind of opal is called Contra-luz.
- Below is a very fine pineapple opal specimen in the Smithsonian's collection. Pineapple opal is hard to come by because it is often damaged during the process of mining and most of the time people prefer to cut them rather than preserve them as a specimen.

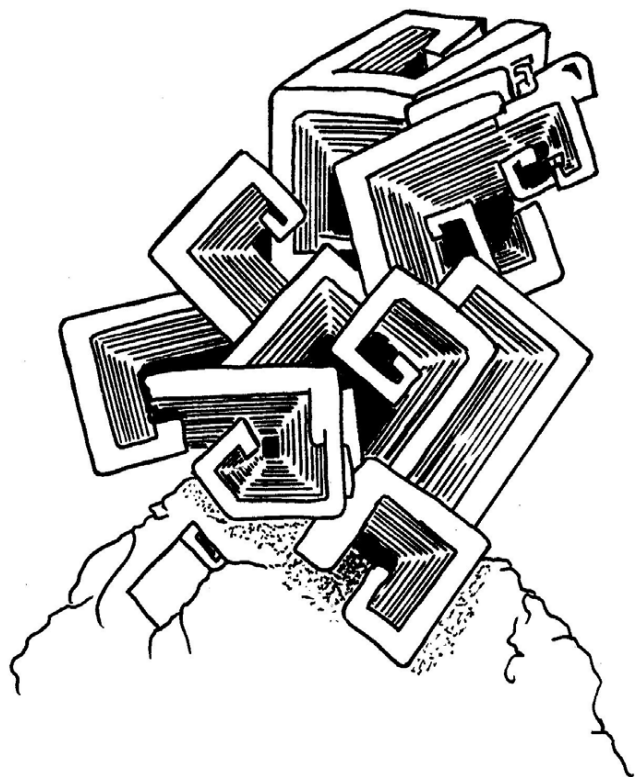


Via Shou-Lin Lee Mineralogical Society of Southern California 12/2010, Via Show-Me Rockhounds Dec 2011.

Making Metal Crystals

With some special materials, and the help of an adult, you can make SILVER CRYSTALS with this experiment at home. You will need the following materials:

- ❖ Silver Nitrate solution
- ❖ Test tube
- ❖ Test tube rack or holder
- ❖ Copper wire



Step 1: Place the test tube in the rack or holder and fill the test tube about 3/4 full with silver nitrate solution.

Step 2: Bend the copper wire into a coil that will fit into the test tube.

Step 3: Place the coiled copper wire in the silver nitrate solution.

Step 4: Place the test tube with the copper wire and silver nitrate solution in a dark place where there is little to no movement or vibration (for example, in your basement where people don't walk very often).

Step 5: Check your wire after 1 hour. You should be able to see small silver crystals growing on the copper wire.

Step 6: Let the test tube sit overnight. In the morning, check the test tube again. You should

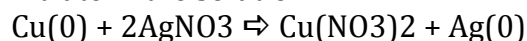
now see noticeably larger silver crystals attached to the copper wire. The liquid will look blue as well. This is because there is now copper in the liquid solution. This gives the blue color.

Step 7: Remove the wire from the test tube. Carefully remove the silver crystals from the wire or leave them attached to the wire. Allow them to dry and store them in your collection!

Prepared silver nitrate solution can be purchased from chemical companies online. One company is ScienceLab.com. You should be warned now that silver nitrate is a bit expensive. For example, a small bottle (500 milliliters) of 0.1M silver nitrate is over \$50 from ScienceLab.com. Also search in Amazon.com for silver nitrate. You will have some success there.

A little explanation for our Mini Miner Chemists out there . . .

The silver crystals form because there is a chemical reaction that takes place between the copper and the silver nitrate solution. When the copper is placed in the silver nitrate solution, a chemical reaction happens. To be very simple about it, there is a "swap" of copper and silver atoms happening here. Chemists describe what happens as a displacement reaction where the copper and silver atoms swap places. In other words, the silver leaves the silver nitrate solution and crystallizes as solid silver while copper atoms leave the wire and become copper nitrate in the solution.



CAUTION: Always be extremely careful when using chemicals and doing science experiments. Be sure to protect your eyes and skin. Always dispose of chemicals properly.

Via: [Vol. 5 No. 12 Dec Issue of Mini Monthly Miners](#)
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Historian	Vacant	
MWF Liaison	Vacant	

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.

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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.

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www.blackhawkgemandmineralclub.com

Affiliations

Midwest Federation of Mineralogical & Geological Societies

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

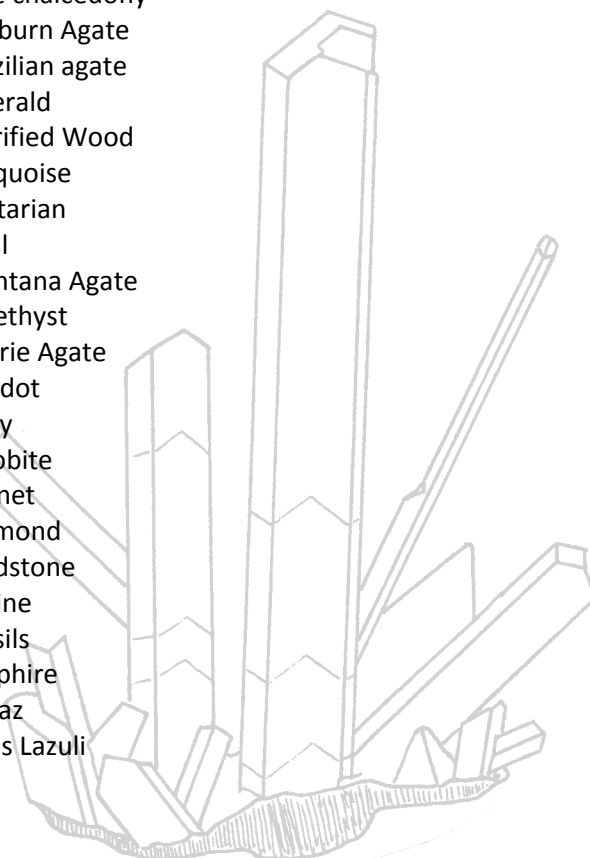
American Federation of Mineralogical Societies

<http://www.gaminal.org/afms.htm>

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Answers to the word jumble:

1. Dugway Geode
2. Blue chalcedony
3. Fairburn Agate
4. Brazilian agate
5. Emerald
6. Petrified Wood
7. Turquoise
8. Septarian
9. Opal
10. Montana Agate
11. Amethyst
12. Prairie Agate
13. Peridot
14. Ruby
15. Trilobite
16. Garnet
17. Diamond
18. Goldstone
19. Citrine
20. Fossils
21. Sapphire
22. Topaz
23. Lapis Lazuli



Smoke Signals



**Black Hawk
Gem and Mineral
Club, Inc.**

January 2012

Volume 57 Number 1

**Blackhawk Gem & Mineral Club
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