



THE AMMONITE



Newsletter of the Western Dakota Gem & Mineral Society — FEBURARY 2011

FROM THE PRESIDENT, by Ellen Tilley



Hello to the snowbirds. Enjoy your southerly comforts. We have been colder than a deep freeze up here. I want to thank Shawn Wilson for our program last month. She is a wire wrap artist with a very modern flair. She uses copper wire, free-form stones, and buttons, anything that speaks to her creativity. Nicely done. John Goes In Center will give our next program. He is a Silver Smith. On a personal note, he did silver and turquoise piece for me. I will wear it for show and tell. My call to Rapid City Police Public Relations Office has so far not been returned. I hope to have answers to the parking problems by our meeting, February 11, at 7:30 pm. Stay Warm.

Treasurer' Report for January 2011



The club deposited \$1187.97 and paid bills totaling \$2043.07, for a balance of \$11,813.22.
We have 39 families and 37 singles as paid members.

Secretaries Notes, January 2011



Meeting started at 7:30pm. Last month's notes approved by Mickey S. and seconded by Dave R.

- A wire wrap demonstration was given by Shawn Wilson
- Treasures report given and approved by Deb R. and sounded by Stan H.
- There will be a Board members meeting soon.
- Show Committee meeting to take place soon.
- We are pretty sure Johnson's bill did not pass. Instead it got pulled. The National Guard may be getting involved because they do some training in the areas in question. One of our members also said that there has been some signs posted about no off road driving at Conata Basin. Jan's next meeting is on 1/28/11 she will check on this.
- Jan B. is in AZ for the winter so there was no report for American Lands Access
- Rita did check with our insurance with the Rocky Mountain Federation and we are cover for up to a million dollars in liability for Rock Hunting.
- About the parking for club meetings- Jan spoke to the police and they suggested that we post signs in the parking lot. The center is not opposed to this but we would have to pay for said signs. We could stand out there on Rush game nights and turn people away but not all of them listen, a couple of us have tried this before. If you have any suggestions please let us know. Be sure you get here early for the February meeting because they will be playing that Friday night
- A Motion was made that we put into place a Sponsorship program for memberships to our club for young students if you would like to pay for a student to join our club for a year see Rita and we will give as many memberships away as we have sponsors for. These will be for students that cannot afford our membership fee that are 18 yrs. or older

HOW TO SEARCH FOR THE ELUSIVE LAKE SUPERIOR AGATE

Although the information below has been compiled to help those in the upper mid-west to search for Lake Superior agates, the same information is relative to agates in other locations. Most Lake Superior agates formed in a rift zone approximately 1.2 billion years ago. Rift zones are cracks in the Earth's surface out of which molten lava flowed. Today, there are still rift zones at the bottom of the Pacific and Atlantic oceans. The rift zone that created Lake Superior agates started in what is now northeast Kansas and continued northeast into what is now the western end of Lake Superior. This hot spot domed up lava several miles high and eventually choked itself off. If it would have continued, it could have split the North American continent in half. It was in the steam-vacated pockets in this lava that agates formed. Later, as erosion and glaciers broke apart this igneous rock, the forces of nature spread the freed up agates throughout the upper mid-west. The primary area of Lake Superior agate distribution is shown below.



Primary Lake Superior Agate Search Area

The list below provides some basic information to help you find the elusive Lake Superior agate. If you are interested in more detail, please visit the Gitche Gumee Museum and request an **agate class**, or visit the **on-line gift shop** to purchase the museum's book *"Understanding and Finding Agates"*.

1. Scan the beach and look for the Iron oxide red color.
2. Look for rocks that show evident concentric banding.
3. Check for possible entrance and/or escape channels that allowed gases or originally escape from the cavity, silica-rich water to enter, and pressure formed during the agate precipitation process to escape.
4. Search for rocks with conchoidal fractures that give the specimen a more angular, irregular shape.
5. Look for the pit-marked surface that is either a mold of the rough-textured igneous material of the host rock in which the agate formed, or the pits left from softer minerals that originally lined the cavity but subsequently eroded away.
6. Look for any pseudo-bands that exhibit possible structure or banding on the inside of the agate that is not immediately evident on the outside.
7. Examine the conchoidal fractures to see if they expose any "windows" to the interior of the rock that indicate that there may be something different on the inside.
8. Use the sun or a flashlight to backlight the specimen. Check for translucency as well as any banding that may not be visible without backlighting.
9. Scan the rock piles for specimens that have a waxy, gray, chalcedony luster.
10. When the angle of sun is low on the horizon, walk toward the sun and look a distance in front of you to look for the extremely translucent red carnelian agates.

11. Look for seam agates as well as nodular agates. In both cases, there should be evidence that silica microcrystals precipitated out of solution to fill the agate one molecule and one layer at a time.

12. Look for moss agates (growths of mineral inclusions imbedded in a translucent chalcedony).

13. Keep a look out for water-line agates with stacked up horizontal layers.

14. Be aware of the "agate-want-a-bees":

- 1. Metamorphic rocks -- Many of these specimens have old sedimentary layers or loose striated patterns of minerals that lined up by density under the intense heat or pressure of metamorphism.**
- 2. Chert, Jasper, and Flint -- These chemical first cousins are silica dioxide minerals, but not considered agate. They are always opaque because their microcrystals are granular and packed closer together than the fibrous structure of chalcedony. Like agate, though, can be banded with conchoidal fractures.**
- 3. Secondary Fills -- Rocks in which a crack filled in with another mineral all in one shot, like fluid being forced through a soda straw. The seam or crack in the rock could have agatized, but didn't.**
- 4. Fossils -- Some fossils appear to show banding or structure, but instead formed when silica dioxide molecules replaced organic cells. Notice that in some silica fossils, light will shine randomly from the surfaces of larger macro crystals**

FEBURARY BIRTHSTONE: AMETHYST

Birthstone Color: Purple



If gazing into the sparkling purple depths of an Amethyst suffuses you with a sense of powerful well being, this is only to be expected. The ancient Greeks believed that this gemstone held many powers, among them protection against intoxication. In fact, the word Amethyst comes from the Greek word "amethystos," meaning sober. In ancient Greece, the gemstone was associated with the god of wine, and it was common practice to serve this beverage from Amethyst goblets in the belief that this would prevent overindulgence. Even today, Amethyst is considered a stabilizing force for those struggling to overcome addictive behaviors.

February's purple birthstone has been found among the possessions of royalty throughout the ages. The intense violet hue of Amethyst appealed to early monarchs, perhaps because they often wore this color. Purple dye was scarce and expensive at one time, and so it was reserved for the garments of kings and queens. Amethyst has been found in ruins dating as far back as the ninth century, adorning crowns, scepters, jewelry, and breastplates worn into battle. A large Amethyst is among the closely guarded gemstones in the British Crown Jewels.

Amethyst is also symbolic of spirituality and piety. It has been used to ornament churches and crosses used in religious ceremony, and worn in rings and on rosaries by bishops and priests.

Once considered more valuable than diamonds, Amethyst is a member of the quartz family, occurring naturally as crystals within rocks. Deposits of this gemstone are found in Brazil, Canada, Australia, India, Madagascar, Namibia, Russia, Sri Lanka; and in the United States.

The gift of Amethyst is symbolic of protection and the power to overcome difficulty. It is said to strengthen the bond in a love relationship, so it is an ideal anniversary or engagement gem. Whether or not Amethyst holds such power, it's stunning beauty will certainly make anyone who wears it feel like royalty!

Learn about the mineral properties of the amethyst at [Conservation and Survey Division](#) of the University of Nebraska

The following is a list of many of the more noteworthy localities and some of the attributes that characterize the amethyst found there.

- **Vera Cruz, Mexico** -- very pale, clear, prismatic crystals that are sometimes double terminated and have grown on a light colored host rock. Crystals are typically phantom, having a clear quartz interior and an amethyst exterior. Some are sceptered and phantom.
- **Guerrero, Mexico** -- dark, deep purple, prismatic crystals that radiate outward from a common attachment point. Often the crystals are phantom opposite of Vera Cruz amethyst having a purple interior with a clear or white quartz exterior. These are some of the most valuable amethysts in the world.
- **Minas Gerais and Rio Grande do Sul, Bahia, Brazil** -- crystals form in druzy crusts that line the inside of sometimes large volcanic rock pockets or "vugs". Some of the vugs form from trees that were engulfed in a lava flow millions of years ago and have since withered away. Other vugs are just gas bubbles in the lava. Some vugs can be quite large. The crystals that form are usually light to medium in color and only colored at the tops of the crystals. Most clusters form with gray, white and blue agate and have a green exterior on the vugs. Calcite sometimes is associated and inclusions of cacoxenite are common. On occasion, even excellent crystals of gypsum have been found nestled inside these amethyst lined vugs.
- **Maraba, Brazil** -- large crystals with unattractive surfaces that are of a pale to medium color and often carved or cut into slices. The large "Maraba points" are always polished to remove the rough and milky surface, revealing the beautiful purple amethyst inside.
- **Thunder Bay, Canada** -- a distinct red hematite inclusion just below the surface of the crystals is unique to this locality. Clusters are druzy crusts that line the fissures formed in ancient metamorphic rocks.
- **Uruguay** -- crystals are dark to medium and form in druzy crusts that line the inside of volcanic vugs that have a gray or brown exterior. The crystals are *usually* colored throughout, unlike the Brazilian crystals, and form with a multicolored agate that often contains reds, yellows and oranges. Often amethyst- coated stalactites and other unusual formations occur inside these vugs.
- **Africa** -- crystals are usually large but not attractive. However, the interior color and clarity are excellent and polished slices and carvings as well as many gemstones are prized and admired.
- **Maine, USA** -- Dark druzy clusters that are not widely distributed today.
- **North Carolina, USA** -- Druzy clusters that have a bluish-violet tint.
- **Pennsylvania, USA** -- druzy clusters that filled fractures in metamorphic rocks. They are generally a brownish purple and patchy in color.
- **Colorado, USA** -- druzy clusters form crusts inside of fissures in [sandstone](#), often on top of a crust of green fluorite. Crystals are dark but rather small.
- **Italy** -- both Vera Cruz like crystals, although not as well defined, and large parallel growth clusters with good evenly distributed color.
- **Germany** -- associated with colorful agates that form a druzy light-colored crust.
- **Ural Mountains, Russia** -- a very clear and dark variety that is cut for fine expensive gemstones, natural uncut clusters are rarely on the market.

• **Happy Birthday to all of you that were born in the month of FEBUARY.**

CLUB CALENDAR – Below is our calendar for the year. Although 2011 is not filled, you can always sign up for Door Prizes and Programs for 2011. Sign up at club meetings, or contact Ellen T. With your chosen month(s) and item(s). Contact Mike J, our Vice President, if you have an idea for a program or would like to present one.

| MONTH | REFRESHMENTS | DOOR PRIZES | PROGRAM |
|-----------|------------------|-------------|----------------------------------|
| JANUARY | Mike & Karen J. | Dale J. | Shawn Wilson Wire Wrapping |
| FEBRUARY | Paula & Stan H. | Annette R. | John Goes In Center Silver Smith |
| MARCH | Cliff | | |
| APRIL | Wes Broer | | |
| MAY | Hazel Williams | | |
| JUNE | Regan Garin | | Last Minute Show Details |
| JULY | | | |
| AUGUST | ***** | ***** | Summer Picnic |
| SEPTEMBER | Deb R. | | |
| OCTOBER | Rita Hanson | | |
| NOVEMBER | | | |
| DECEMBER | ***** | ***** | Holiday Dinner |

Western Dakota Gem & Mineral Society 2009-2010 Officers and Chairpersons (area code 605)

| | | |
|----------------------------|---|--------------|
| President: | Ellen T. 21653 Piedmont Meadow Road, Piedmont, SD 57769..... | 701-787-4659 |
| Vice President: | Mike J. 5884 Legacy Lane, Rapid City, SD 57703..... | 685-4847 |
| Secretary: | Paula H. 533 Enchantment Road, Rapid City, SD 57701..... | 484-3754 |
| Treasurer: | Rita H. 2569 Ambush Ranch Rd., Rapid City, SD 57703..... | 348-3916 |
| BRC SD Rep: | Martin O., 245 E. St. Charles St, Rapid City, SD 57701..... | 721-7770 |
| BHRMUC Rep: | Ellen T., 21653 Piedmont Meadows Rd., Piedmont, SD 57769..... | 787-4659 |
| RMFS SD Dir.: | Dale J., 14974 Back Country Trail, Rapid City, SD 57703..... | 393-2011 |
| Field Trip Chairs: | Gene W. 2415 Judy Avenue. Rapid City, SD 57701..... | 399-2670 |
| 1 yr. Board Member: | Dale J. 14974 Back Country Trail, Rapid City, SD 57703..... | 393-2011 |
| 2 yr. Board Member: | Mickey S. 201 Patton St., Rapid City, SD 57701..... | 791-1953 |
| 3 yr. Board Member: | Stan H. 533 Enchantment Road, Rapid City, SD 57701..... | 484-1591 |
| Newsletter Editors: | Hazel W & Paula H. P.O. Box 3620 Rapid City, SD 57709 | 399-2670 |
| Historian | Annette R., 2701 Mystic Mt. Rd., Rapid City, SD 57702..... | 348-8948 |
| Librarian: | Steven E., P.O. Box 1123, Rapid City, SD 57709..... | 791-2473 |
| Webmaster: | Steven E., P.O. Box 1123, Rapid City, SD 57709..... | 791-2473 |

Remember we have a new club address. This is to be used for all correspondence.

**Western Dakota Gem & Mineral Society
PO Box 3620, Rapid City, SD 57709-3620**

Meetings: Second Friday of each month, 7:30 p.m., Minneluzahan Senior Center, 315 N. 4th St., Rapid City

Dues: Family - \$15, Single - \$10, Payable by cash, check, or money order. Senior Citizens - free (does not include bulletin)

The purpose of our club is to promote interest and education in geology, mineralogy, paleontology, archaeology, and lapidary, to sponsor and provide means of coordination the work efforts of groups and individuals interested in these science fields.

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Official Publication of the
Western Dakota Gem & Mineral Society

Editors:

Paula Hohn and Hazel Williams

P.O. Box 3620

Rapid City, SD 57709

Affiliated with AFMS and RMFMS

Club Mailing Address:

Western Dakota Gem & Mineral Society

PO Box 3620

Rapid City, SD 57709-3620

**Material in this newsletter may be used if proper
credit is given.**

**Material for this newsletter must be given to the
editor by the 25th of the month preceding that issue.**

