



THE AMMONITE

Newsletter of the Western Dakota Gem & Mineral Society – Issue 1- JANUARY 2013

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Reminder: If you change your home address or e-mail address- Please notify the Bulletin Editor or Treasurer. DUES: FAMILY: \$15.00 – SINGLE: \$10.00 – SENIOR CITIZENS-FREE & On-line Bulletin only. Payable by cash, check or money order to Treasurer Annette Rathert * ITEMS FOR BULLETIN MUST BE IN BEFORE 24TH OF EACH MONTH.

*MEETING – 6:30 Canyon Lake Senior Citizen’s Center

*PROGRAM M: Earl Rinard will introduce the program he has lined up for this month. Thomas P. Scherer, an excellent photographer, who moved to Rapid City. The front cover photograph on the December issue of ROCK AND GEM magazine is by Mr. Scherer! This will be an interesting program. Let’s have a good turn out!

REFRESHMENTS: Patricia and John Dickinson

DOOR PRIZES: Annette Rathert

PRESIDENT’S MESSAGE by Ellen Tilley

HAPPY NEW YEAR-2013! We missed many of our members at the Christmas dinner but we had a good time and good food.

We are working on details for our 2013 Show on July 12, 13 and 14th. We still need a show chairman. David Ramberg is our Co-show chairman. We need someone to come forward and lead the Show Committee! This is the list of our present show line-up:

Silent Auction: Deb. R. Exhibit Cases: Jan B. Venders: Annette R. Information table: vacancy Kids Activities: EllenT. Fluorescent display: vacancy Pot Luck: vacancy Security: vacancy Publicity: vacancy & Set-up Crew .

THE BOTTOM LINE IS- WE NEED PEOPLE NOW TO COMMIT TO TAKING A SHOW POSITION. WE CAN NOT WAIT ANY LONGER! If the show positions are not filled now, we can not have a show. We do have some dealers. We need MEMBERSHIP to be involved or we will have to cancel and lose \$500.00, a damage to our reputation.

****ALL BOARD OF DIRECTORS AND MEMBERS OF THE SHOW COMMITTEE NEED TO ATTEND THE BOARD MEETING ON THURSDAY, JANUARY 3RD AT 6:PM AT THE CANYON LAKE SENIOR CITIZENS CENTER.**

TREASURER'S REPORT by Annette Rathert

Balance on hand **11/9/2012: \$6876.82**

Deposited: 175.00 Paid: 483.89 (PO BOX,POSTAGE,ALAA,RMFMS,WEB,RENT)

Balance on hand: **12/14/2012: \$6567.93**

There are 30 families, 18 singles and 8 honorary members.

CHRISTMAS PARTY by Annette Rathert

Fourteen members met at the Elks Club December 7th for a great buffet and fellowship. The catered buffet with very tender Roast beef and chicken breasts was delicious and filling, as we could help ourselves to seconds..... thirds?...as long as the food lasted. Ellen brought gifts of her jewelry for drawings and I brought some rocks from my collection for place setting favors.

We enjoyed a time of visiting and sharing stories about rock hounding.

Rockhounds' Newline:

I just received a phone call from Sony Hemsher, our South Dakota/Nebraska State Director. He wanted me to let you know that he is in California working in his job with FEMA. He said he has received messages from the Federation, but he is unable to reply now. He hopes to be back in South Dakota to catch up on things by the middle of this month. He does not have time off now, as he is helping with the weather related disaster there this past week. He had been working on the East Coast with the hurricane Sandy disaster. He wanted me to let our members know also. Annette Rathert, Treasurer

I sent this information on the Betty Cain, Editor of RMFMS Newsletter, receiving a reply: [Thank you , Annette; I'll post a little notice in the newsletter. If you hear from Sony again, please tell him we're proud of him and thank him for helping the disasters.](#)

Rocky Mountain Federation News: The December issue is full of interesting articles! Do go on line and read it. Dr. Mike Nelson has another article featuring South Dakota, mentioning our WDG&MS club, and has geographical aspect concerning the variety of difference in the land all over our State. It is much too long for me to reprint in this bulletin. If you don't have a computer, I urge you to go to our city library , use a computer and read the December RMFMS Newsletter.

Public Land News-by Jan B: I could not find any news concerning our state, but went into the "Blue Ribbon Coalition News" for December. This issue is well worth reading especially if you go to any of the states in the West or Northwest to camp and rock hunt!! There are protest battles in several states, especially Utah, that the land owners and the user of this beautiful land are fighting to keep it free! Any input from surrounding states to issued concerning the different states is appreciated.

SHOWS: **January 31st-February 17th**-TUCSON, AZ. Wholesale and retail, 22nd and Interstate 10 in large tent-180 dealers- 9 to 6
February 2-17-TUCSON, AZ, Wholesale and retail shows-Kino Sports Complex, Bay County Fairground, 2230 E. 15th St .
May 17-19, RMFMS Convention & Show hosted by the Wasatch Gem Society, Salt Lake County Equestrian Park & Events Center, 2100 W. 11400 South; contact Kim Blanton, 801-604-1265, kimblanton2@aol.com

HELP WANTED! By Annette Rathert

The club needs you!. Yes, you! We need to start the new year with more spark.

QUALIFICATIONS: Love rocks and gems. **PROGRAMS:** If you have a skill or knowledge related to rocks, gems, or fossils, please speak up. We need interesting and informative programs at the meetings. No one wants to come to a meeting that is all business and grousing. Ask for programs on a topic of interest to you. Bring things for show and tell. See VP Arlend Maul.

INVOLVEMENT: New Year's resolution: Attend the meetings, be positive and enjoy the hobby we share. Greet guests. Sign up for bringing door prizes or refreshments to the monthly meetings. See Sec. Paula Goddard.

VOLUNTEER: We are scheduled to present a show **JULY 12, 13,14, 2013.** There is a lot of work to be done with this. Please volunteer for committees, such as selling tickets, helping with the silent auction, information desk, publicity, displays, dealers, potluck and setting up the week of the show. Help Ellen with the children. See Show Chairperson or Co-Chairperson, or any Board member.

SUGGESTIONS: Feel free to offer ideas on how to improve the club and show. Do not be afraid of the long time members who did NOT know it all. Put it in writing or bring it up at a meeting. **LET'S HAVE A GREAT 2013.**

SAFETY TIPS:

Drive your chisel through a rag when splitting a rock. It will keep those chips from flying and may save an eye. (Rock Licker 5/08 - Via Petrified Digest 8/08]

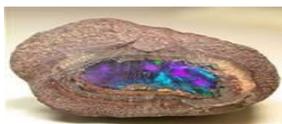
LAPI LAZULI



Few gems display a color as rich as the deep royal blue of fine Lapis. Lapis was one of the gems of the ancient world, and was even valued on an equal level with gold. Lapis was used in medicines, cosmetics and paintings. The tomb of Tutankhamen, Pharaoh of Egypt, contained a wealth of gold and Lapis jewels. Lapis has been mined continuously though sporadically for more than 6,000 years in the Badakshan region of Afghanistan. Lapis is actually a rock, composed chiefly of the minerals Lazurite, pyrite, and calcite.

Lazurite is blue, pyrite yellow and calcite is white. The brassy-gold spots and flecks of pyrite in genuine Lapis are very distinctive.

[from: SCMF Newsletter - Petrified Digest 11/08—photos by Bing.com]



THE GEM STONE, OPAL.

Chemistry: $\text{SiO}_2 \cdot n\text{H}_2\text{O}$; Hydrated Silicon Dioxide.

Class: Mineraloids.

Uses: As a gemstone and ornamental stone.

Group: Some mineralogists place Opal in the Quartz Group.

Opal has been a popular gem for many centuries and has a very interesting structure. Opal is considered a mineraloid-this structure is not truly crystalline. The chemistry of Opal is primarily SiO_2 and varying amounts of water. The amount of water varies from 5 -10% and greater.

This water can help geologists determine the temperature of the host rock at the time the opal formed. Although there is no crystal structure (meaning a regular arrangement of atoms), Opal does possess a structure nonetheless. Random chains **of silicon and oxygen are packed into extra tiny spheres. These spheres in most Opals are irregular in size and inconsistent in concentration.** Yet in Precious Opal, the variety used most often in jewelry, there are many organized pockets of the spheres. These pockets contain spheres of approximately equal size and have a regular concentration structure, of the spheres. This has the effect of diffracting light at various wavelengths, creating colors. Each pocket has a different prod, with a different intensity depending on the angle from which a viewer sees it. The multicolored flashes different colors of light that Opal emits gives it a truly beautiful and valuable look.

Color : Opal can be colors of white, colorless, pale yellow, pale red, gray or black when impurities are common. Diffraction can cause flash hues of any color

Luster is vitreous to pearly. Some opal fluoresces and it can be very sensitive to impacts and low temperatures.

Opal is the [Queen of Gems]. No gemstone can match its spectacular 'play of color' or uniqueness. Australia produces 95% of mostly volcanic opal. Quality opal commands a lower price per carat than diamond and is magnificent. Opal is amorphous. It fractures with a conchoidal shape. There are no microscopic parallel plates in opal, though there are in labradorite. Opal's color play is caused by a regular pattern of silica microspheres, all the same size, forming a diffraction grating. Opal's colors are pure like a rainbow. You'll never see metallic bronze, or metallic gold, coming from an opal, because of this, but you will see them coming from labradorite.

(by www.wikipedia/wkiki/opal)

JANUARY BIRTHSTONE: GARNET

Garnet gemstones have been treasured for thousands of years and they are considered to be one of the world's most ancient gems. Use of garnets as gemstones have been traced to Egyptian artisans in 3100 B.C. Garnets were named by the ancient Greeks who thought the stone resembled a pomegranate. Garnets have been used in bracelets and brooches since the latter part of the 19th century. They have also been used as abrasives for materials such as glass, metal, plastic, wood, and leather due to their sharp fracture. Garnet makes a popular gemstone for jewelry for several reasons. Garnets are a reasonably cost-effective gemstone. They are also known for their beauty. There are several different kinds of garnet that make up many different colors. The best known color for garnet is reddish brown.

Garnet can be found in every color except for blue. Garnet is January's birthstone and can be found in a wide variety of pieces of jewelry. They are a popular gemstone for Valentine's Day gifts and are beautiful when they are paired with diamonds. Garnet jewelry is relatively low maintenance as well. Garnet jewelry can be cleaned by soaking it in warm soapy water and being gently rubbed with a toothbrush. With proper care, garnet jewelry can last a lifetime, being gently rubbed with a toothbrush.

(Article Source: <http://EzineArticles.com/5675209>)

CLEANING AND CARE OF JEWELRY

- DIAMONDS: MIX 1 CUP OF HOT WATER WITH 1/4 CUP OF AMMONIA AND ONE TABLESPOON OF MILD DISH DETERGENT, SOAK DIAMONDS IN THIS MIXTURE FOR APPROXIMATELY 20-30 MINUTES DEPENDING ON THE CONDITION OF DIAMONDS. THEN SCRUB FIRMLY AND SLOWLY WITH A TOOTHBRUSH. RINSE IN WARM TO HOT WATER (NOT SCOLDING OR NOT BOILING WATER) THEN DIP IN RUBBING ALCOHOL AND LET AIR-DRY OR DRY WITH A LINT FREE CLOTH DO NOT RINSE THE ALCOHOL OFF. YOUR DIAMONDS WILL BE SPARKLING CLEAN AND WILL LOOK SHOW ROOM BRIGHT!
- GOLD: MIX 1 CUP OF WARM WATER WITH 1/2 CUP OF AMMONIA. THEN SOAK JEWELRY IN THIS MIXTURE FOR 15 MINUTES. SCRUB VERY GENTLY WITH A SOFT TOOTHBRUSH. RINSE IN WARM WATER AND LET THE PIECE OR PIECES DRY ON AN ABSORBENT TOWEL. YOUR GOLD PIECE WILL BE SHINING BRIGHTLY AFTER THIS TREATMENT!!
- OPALS: HANDLE VERY CAREFULLY SINCE OPALS ARE VERY FRAGILE. WHEN NOT WORN, OPALS SHOULD BE STORED IN A HUMIDOR OR IN WATER. TO CLEAN YOUR OPALS USE A MILD DETERGENT AND WATER. ATTENTION: NOT HOT OR STEAMING WATER!!!
(<http://reviews.ebay.com/care-of-opals>)



Ancient petrified wood in an existing coal field. (<http://www.bing.com/images/search?=&pictures+of+ancient+wood+turn+into+coal>)

PETROLEUM, COAL AND PETRIFIED WOOD.

The claim that it requires long periods of time for the development of oil, coal or petrified wood is obsolete. Rapid formation of oil has already been tested experimentally for some time and in 2006 it was discovered that coal can form overnight under favourable conditions. Patents have already been registered for some years for petrification of wood. Petrified wood is used, for example, for tabletops and chimney plates.

Formation of coal:

An announcement by the Max-Planck Institute indicates that straw, wood, moist grass or leaves can be converted to coal over-night. A process has been presented with which plant biomass can be converted virtually completely to carbon and water directly without complicated intermediate steps. The process is called hydrothermal carbonization. It works like a steam pressure cooker, only at higher temperatures.

The cooking recipe for coal is amazingly simple. A pressure vessel is filled with any type of vegetable products, for example, with leaves, straw, grass, pieces of wood or pinecones. Then water and a small quantity of citric acid are added. The vessel is then sealed and the content is heated under pressure for twelve hours at 180 degrees Celsius. After the mixture particles of carbon called colloids.

All carbon previously contained in the vegetable material is now in the form of these particles as small, porous lignite balls has cooled down, the vessel is opened. It contains an aqueous black broth with finely distributed spherical-shaped particles (continued) of carbon called colloids. All carbon previously contained in the vegetable material is now in the form of these particles as small, porous lignite balls.

In the Triassic or Jurassic period, carbon strata developed within only twenty-five to thirty years. This is revealed by the oval and circular concentric polonium radiohalos present in the material. Polonium-210 has a half-life of 138.4 days. If the radiohalos developed before compression of the coal stratum, they all would have to be oval (2).

Formation of petroleum:

For formation of sediment basins and the petroleum reserves present therein, geoscientists assume protracted processes lasting millions of years. By contrast, hydrothermal laboratory experiments on bedrock from sediment basins showed that petroleum can be formed and extracted very quickly at appropriately high temperatures or under suitable catalytic conditions

As reported by geologists Borys M. Didyk and Bernd R.T. Simoneit, a 500 m thick deposit of phytoplankton, freely suspended seaweed from which petroleum escapes (4), is present in the Guaymas basin in the Gulf of California. Hypo-thermal fluids with a diameter of 8 -12 centimeters are present at the surface of these sediments from which hot water exits at a temperature of 200°C.

This water carries small spheres of oil with a diameter of 1-2 cm with it. Detailed research has shown that the composition of this oil is very similar to common petroleum. Age measurements using the radiocarbon method indicated 4,200-4,900 years.

(Continued) The oil formed at a temperature of over 315°C at a pressure of 200 bars. The estimate of the quantity of oil formed showed that use of the oil would be worthwhile if it could be collected. (continued on next page)

Petrification of wood:

When wood is deposited in rivers, lakes or in the sea and is covered quickly enough with sediment, the conditions for petrification can result. The same phenomenon is caused by embedding the wood in volcanic ash and tuffite following a volcanic eruption. Without contact to the oxygen in the air, the wood constituents are leached out and replaced by minerals from the surrounding soil. American scientists have been successful in petrifying wood within a few days. During this process, the organic wooden material is replaced little by little by minerals – for example, crystallized silica – so that the original structure is preserved completely. (From Petroleum, Coal and Petrified Wood/www.Wikipedia.com)

THE MEDICINE WHEEL IN THE BIGHORN MOUNTAINS OF WYOMING



The Bighorn Medicine Wheel is the most important of several medicine wheels in the American West. Constructed around 700 years ago and aligned with the stars, it is an important sacred site for local Indians as well as New Age practitioners. The Bighorn Medicine Wheel predates the Indian tribes in the region and is thought to be about 700 years old. Members of the Crow tribe, who have long used the Medicine Wheel for rituals, ascribe its creation to a boy named Burnt Face. According to the story, the boy fell into the fire as a baby and was severely scarred.

When Burnt Face reached his teen years, he went on a vision quest in the mountains, where he fasted and built the medicine wheel. During his quest, he helped drive away an animal that attacked baby eaglets. In return, he was carried off by an eagle and his face was made smooth.

For centuries, the Bighorn Medicine Wheel has been used by Crow youth for fasting and vision quests. Native Americans also go to Bighorn to offer thanks for the creation that sustains them, placing a buffalo skull on the center cairn as prayer offering. Prayers are offering here for healing, and atonement is made for harm done to others and to Mother Earth.

A number of great chiefs, including Chief Joseph of the Nez Perce, have come to the Bighorn Medicine Wheel to pray for wisdom and guidance to lead their people in the transition from freedom to reservation life. The medicine wheel was added to the National Register of Historic Places in 1969. (www.sacred=destinations.com/usa/bighorn-)

Words To Live By "Broke" is what happens when your yearnin's gets ahead of your earnin's.
The person who forgives ends the quarrel.
A candle loses none of it's light by lighting another candle.
You never get a second chance to make a good first impression.

Contributed by Wayne Ehlers, Strata Gems, 10-2011

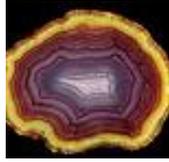
BENCH TIPS BY BRAD SMITH RAISING A CABOCHON

When a cabochon sits too low in a bezel, the bezel hides a lot of the stone. Solution is to either sand down the bezel height or boost up the stone. Question is what do you use to elevate your cab? I was taught to use fine sawdust but now think that there is a better solution, especially for use in rings. I reason that rings will frequently get wet, which would cause the sawdust to swell in size and push the stone against the bezel. Then when the sawdust dries out, the stone would be a little loose. In anycase, I now prefer pieces of plastic sheet to boost up my stones. Pieces are readily available from product packaging or from old credit cards. I just cut a piece to loosely fit the bezel and drop in the stone (with some dental floss) to check its height.

SMOOTHING EARWIRES

Next time you make your own ear wires, the hardest part for me is to sand and polish the end that's inserted into the ear. Any sharp edge there is no fun. I've tried using sanding sticks, cup burs, and silicone polishing wheels. I've tried buffing on a Zam wheel (continued) and I've tried spinning the wire in the Foredom to polish the tip. While all of these techniques do eventually work, none are very easy, and none are as fast as I'd like. Then it occurred to me - I could melt the wire smooth. One quick touch in the flame of the propane/oxygen Little Torch does the trick - not enough to form a bead on the wire but just enough to round off the tip. It's best to practice the maneuver a couple times on some scrap wire before trying on completed earrings. Next time you make your own ear wires, the hardest part for me is to sand and polish the end that's inserted into the ear. (RMFMS Newsletter-8/2011)

FEATURING MEXICAN LAGUNA AGATE



Laguna Agate is a type of Chalcedony; it is a cryptocrystalline form of silica. Laguna Lace agate gets its name as a hybrid of Crazy Lace agate. It is a variety of Mexican Crazy Lace agate. Crazy Lace is a variety of agate that features "crazy" twists and turns in the banding often with very bright colors of blues, oranges, whites, creams, pinks, yellows, and reds. With crazy lace the bubble top of the material may be cut in cross sections creating what is sometimes called out as eyes. The agate is a *fortification* agate with beautiful varietal colors and fortification features patterns like a medieval fortress wall. Laguna Lace however presents both varieties of banding often in the same stone. It comes directly from the mines as rough in Chihuahua, Mexico. Colors include blues oranges, whites, creams, pinks, reds, grays, blacks and combination of colors. With crazy lace the bubble top of the material may be cut in cross sections creating what is sometimes called out as eyes.



Banded Agates of Northwestern Mexico- by Les Shulman, Bella On-line Mexico Editor

Banded agates are a passion of mine. My collection of these patterned and colorful cryptocrystalline wonders composed of chalcedony/quartz include rough and or polished specimens from many of the major worldwide sites where they are found: Queensland agates from Australia; Botswana agates from that Southern African nation of the same name; Condor agates from the Patagonia region of Argentina; Brazilian agates from a mountain range located in both Brazil and Uruguay; Ayrshire agates from Scotland; Dryhead agates from Montana; Fairburn agates from South Dakota; and Lake Superior agates from the north central states of the USA. However, due to their diversity in terms of how many varieties there are with distinctive and unique characteristics such as "shadows," tubes, eyes, the iris effect, and pseudomorphs, the banded agates of Northwestern Mexico are my favorites.

Defined as an agate whose colors are arranged in varying widths of bands or stripes, the banded agates of Mexico are primarily found in the desert lands in that country's largest state, Chihuahua. Formed in volcanic rock approximately 28-45 million years ago, these agates (many literally for ages lying on the ground exposed in the remote, harsh, and arid environment) did not become well known until 1945 when rockhounds with picks and shovels in hand from the US entered the Chihuahuan desert in Mexico and "discovered" them. From 1945 through the early 1960s an "agate rush" of sorts ensued and the banded agates, most of which were brought back to the US, particularly to El Paso, Texas and other parts of the southwest, became sought after by the world's agate collectors. It was only in the 1990's, due in large part to NAFTA's opening up of opportunities for foreigners to do business in Mexico, that limited organized mining utilizing heavy equipment occurred. Currently, a majority of the better known and most popular of the varieties like Lagunas, Gallegos, and Coyamitos are found in Northern Chihuahua, in the Sierra del Gallego area.

For the most part, the agates derive their names from the cattle ranches that they are on or the small towns that are near where they are found. Others like Dogtooth Lace, Cactus Lace, Day and Night Lace, or Chinese Writing Lace which are among the numerous types of Crazy Lace agates or Apache Flame are named after some of the physical characteristics that they exhibit. Of the dozens of types of banded agates that have been found, the following are among the better known- Agua Nueva, Aparejos, Coyamito, Crazy Lace, Gallego, Sueco, Mesquite, Apache/Apache Flame, Casas Grandes, Moctezuma, Parcelas, Loma Pinta, and Laguna. The majority of agate aficionados would agree that foremost whole patterns of these characteristics are the outstanding "fortification" patterns- the banding making sharp, angular turns that the most highly prized of Mexico's banded agates are the Lagunas of which the best quality exhibit many or all of the choice combinations of that Lagunas can display. (continued on next page)

that Lagunas can display. The finest of the Lagunas along with their striking and intricate fortification banding offer a vivid range of bright colors including red, gold, purple, lavender, pink, yellow, orange, beige, grey, green, or white.

Another highly sought after banded agate are the Moctezumas. Found in three locations in Chihuahua, they are less flashy than the Lagunas but equally as beautiful. Extremely opaque, the Moctezuma's colors/patterns are not as vivid as are the Lagunas but rather are pastels whose colors include shades of pink, salmon, yellow, tan, and occasionally green and blue.

Of all of Mexico's banded agates my personal choice not only because they are much more affordable than the exorbitantly priced finest quality Lagunas and Moctezumas whose stocks have become quite depleted are the more abundant Crazy Lace aka Mexican Lace agates. Best described as whimsical in appearance, the Crazy Lace pattern generally consists of swirling irregular and curved bands including undulating zig-zags, scallops, sunbursts and eyes. The polished slab specimen that I am looking at now that is in my collection and that was the first banded Mexican agate that I ever purchased has all of the features just mentioned in an appealing array of colors- pink, burgundy, mauve, yellow, cream, white, black, and grey. On our roof terrace are large pieces of Crazy Lace rough (along with hundreds of other specimens of rocks, minerals, fossils, and petrified wood) that look amazing as the midday sun shines on them. Moreover, like most other Mexican banded agates including Laguna and Moctezuma, Crazy Lace due to its relative hardness, distinctive colors, and outstanding patterns can be fashioned into gorgeous jewelry, especially rings and pendants made from lapidary shaped and polished cabochons or small freeform polished slabs.

Yet, if you are interested in purchasing high quality banded Mexican agates, you are best advised not to go rushing off to the state of Chihuahua to do so. The now long agate savvy Mexican owners of the agate properties/claims will only sell you "junk" as their priorities are to maintain excellent business relationships with their customers in the gem trade industry that they historically have had regular dealings with. Ironically, your best bet may be to purchase fine quality Mexican rough and polished banded agates, in person or on the Internet, from The Gem Shop, Inc. of Cedarsburg, Wisconsin which has had mining operations at some of the best agate locations in Chihuahua for Lagunas, Apaches, Coyamitos, and Agua Nuevas. Go figure, I live in Mexico and I can't get good ones here even if I could afford. (www.Bellaonline.com/articles)

DUCK-BILL DINOSAURS HAD TOUGHER TEETH THAN HORSES OR COWS

A team of paleontologists and engineers has found that the teeth of duck-billed dinosaurs were much better adapted to chewing tough and abrasive plants than those of cows, horses, and other modern grazers. During the Late Cretaceous about 85million years ago, duck-bill dinosaurs known as Hadrosaurids were the dominant plant-eaters in what are now Europe, North America, and Asia. Their jaws contained as many as 1,400 teeth. In a study published October 4 in journal Science, the team cut cross sections of fossilized Hadrosaurid teeth and examined them under a microscope. The teeth were found to have six different types of dental tissues – four more than reptiles and two more than modern horses, cows, and elephants.

To determine the effectiveness of these teeth to grinding abrasive plants, the researchers used a technique called *nanindentation*, in which a diamond-tipped probe is indented and/or drawn across the tooth to determine different hardness and wear rates of the dental tissues. The wide variety of teeth structures with ecological niches where they ate extremely tough plants like ferns, horsetails, and other plants that other dinosaurs can not eat.

(By Dennis Gertenbach via Flatiron Facets-Nov-Dec.2012)



WISHING EVERY ONE A GREAT NEW YEAR WITH SUCCESSFUL ROCK HUNTING!



THE AMMONITE

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Official Newsletter of the
Western Dakota Gem & Mineral Society
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TO:



FEATURING MEXICAN LAGUNA AGATES

Issue 1- January 2013

The purpose of our club is to promote interest and education in geology, mineralogy, paleontology, archeology and Lapidary, to sponsor and promote means of coordination of the work efforts of groups and individuals interested in the Science Fields.