

# Jade State News

WYOMING STATE MINERAL AND GEM SOCIETY, Inc. - P.O. Box 697, CODY, WYOMING 82414  
**Volume 2015, Issue 1**

## *The Origin of the Wyoming State Mineral and Gem Society, Inc.*



**February 2015  
 Inside this issue:**

Directory of Officers and Affiliated Clubs	Page 2
WSMGS Updates	Page 3
Dinosaur track site	Page 4
Origin & History of Wyoming Mineral & Gem	Pages 1 & 5 thru 6
Wyoming Gypsum	Pages 6 ,8 & 9
Fairburn agates from Wyoming	Pages 9 & 10
Lapidary tips	Page 11
Club News and Announcements	Pages 12 to 15
Cody Mineral & Gem Show Poster	Page 16

*After*

the Wyoming State Mineral & Gem Society Board presented a new WSMGS logo and digitized trademark at the 2014 Annual WSMGS Meeting in Casper, the membership voted to adopt both. It was not until the WSMGS Board's 2014 Fall meeting that the issue was raised as to if the date, 1964 on both the logo and trademark was the historical beginning of the WSMGS??

The following report is a summary of excerpts from archived Jade State News and organizational documents that traces the correct origin date of the Wyoming State Mineral and Gem Society. The basic question to be answered- Did the Wyoming Geological Society that incorporated in 1937 evolve into the Wyoming State Mineral and Gem Society or did the Wyoming Geological Society dissolve and at some later date, the Wyoming State Mineral and Gem Society was first organized?

### **Formation of the Wyoming Geological Society-1937:**

On April 20, 1937, a meeting of 47 people from Lander, Hudson, Riverton and Wind River gathered at the Fremont County Vocational High School building for the purpose of organizing a society in the interest of mineralogy, geology and paleontology. A committee was appointed with Byford Foster, W.L. Marion, Norbert Ribble and Mrs. Phil Shorts as members to prepare the by-laws for the new organization, which were to be presented for adoption at the May 18, 1937 meeting.

At the May 18th meeting, a motion was made by Mrs. Phil Shorts to incorporate, which was seconded and passed as the "Wyoming Geological Society". The by-laws were also presented by the committee and approved. Incorporated into the By-Laws of the Wyoming Geological Society was the passage "to encourage the formation of local groups of interested persons who may affiliate with this Society in a manner hereinafter indicated for the purpose of extending and perpetuating the objects of the Society."

On May 22, 1937, the Articles of Incorporation were filed and accepted at the Fremont County Clerk's Office. **(Jade State News-August 1988 & May 2013)**

### **Supporting Evidence for the Formation of the Wyoming State Mineral and Gem Society:**

A. "The original charter reveals that the club was named the Laramie Mineral Club; the name changed to Laramie Rockologists in 1953 to better represent the interests of

*Article continued second column page 5*

**Wyoming State Mineral & Gem  
Society  
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**Wyoming State Mineral and Gem  
Society Board meets quarterly**

**Cheyenne Mineral & Gem Society:**

Mail: P.O. Box 21412, Cheyenne, WY 82001

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cheyennemgs@wymineralandgemsociety.org

**Cody '59ers Rock Club:**

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**Natrona County Rockhounds:**

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**Shoshone Rock Club:**

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Additional information on Club meeting days, times and locations is posted under the Club News and Announcements on Pages 12 and 13

**T**he Wyoming State Mineral and Gem Society (WSMGS) is a non-profit organization, with the purpose of educating, promoting and developing an interest and understanding in the Earth Sciences, Lapidary Arts, and their related fields for its affiliated members as well as the general public. The WSMGS is a member of the Rocky Mountain Federation of Mineralogical Societies (RMFMS) and the American Federation of Mineralogical Societies (AFMS). WSMGS Member Clubs are located in Casper, Cheyenne, Cody, Powell, Riverton, and Torrington, Wyoming. The WSMGS invites you to explore our website for information about Wyoming's minerals, rocks, fossils, and gemstones as well as for an introduction to the people and places that rockhounds can visit, explore and learn. *You can find us at:*

<http://www.wymineralandgemsociety.org/index.html>

# WSMGS INFORMATION AND UPDATES *by Stan Strike, President*



1. Emails were sent to the WSMGS member club contacts concerning the following "Dates and Deadlines"
  - A. Deadline for Club News in the February Jade State News is the 1st week of February. Please send our JSN Editor-Verne Orcutt a paragraph or two: WSMGSpublicity@gmail.com
  - B. Please have your club secretary send a 2014 Annual report to our State Historian-Richard Heumier so they can be archived. An annual report can be a copy of your yearly club minutes.
  - C. Deadline for WY CLUB Rockhound of the Year-**APRIL 1st**. Each club's nomination will be recognized at the Annual Meeting. In addition, as stated in a previous email, individuals may nominate using the WY STATE Rockhound of the Year form which is due **MAY 1st**.  
ALL Club AND State Rockhound of the Year Nominations will be eligible to be selected as WY State Rockhound of the YEAR by a independent group of judges.  
All Forms can be found online at the WSMGS website:  
[www.wymineralandgemsociety.org](http://www.wymineralandgemsociety.org) – under the heading "Who We Are—Forms".
  - D. The 2015 WSMGS Club Directory in "Word and pdf" formats. THIS WSMGS CLUB DIRECTORY IS FOR INTER-CLUB USE ONLY IN ORDER TO PROTECT INDIVIDUAL WSMGS MEMBERS' PRIVACY. The WSMGS Board will continue to use the abbreviated club contact format with alias email addresses as presently used in the Jade State News and on the WSMGS website.

2. The WSMGS Board met on 1/09/2015 at the Riverton Senior Center. The following items were presented:

- \* Status of WSMGS affiliated club dues and membership changes –Jim McGarvey
- \* Review of the Status of payments / reports required of WSMGS Board-Jim McGarvey
- \* Discussion of grants submitted using WSMGS's 501(c)(3) status.
- \* Noted the use of 501(c)(3) Donation Form for donations for State Shows & Grants
- \* Updating of 2015 WSMGS Membership Information by Mary Ann Northrup
- \* Report on progress concerning 2015 RMFMS/WSMGS Convention & Rock Show
- \* Suggestions for advertising & speakers for 2015 RMFMS/WSMGS Show
- \* Determined People's Choice Award by public and ribbons given by 3<sup>rd</sup> party judging.
- \* WSMGS will provide judges, judging forms, and ribbons for all state shows
- \* Plaque for State Rockhounds of the Year donated by Jim McGarvey with individual names engraved by George Tillman beginning in 2008
- \* Report on website usage by Stan Strike
- \* Update of WY rock shops listed on WSMGS web site by Richard Heumier
- \* Suggestions for February Jade State News with early publication deadline
- \* Report from RMFMS State Director
- \* Discussion of correct origin date of WSMGS (1937,1955,1964?)- logo/trademark date changed to 1937 based on research from WY Sec. of State and old minutes & JSN
- \* Ad policy for Jade State News-limited to Rockhound related items
- \* Set Mineral & Gem Show Dealer/Worker Luncheon for Thursday 7/16/15- Noon
- \* Set 2015 WSMGS Annual Meeting for Thursday 7/16/15-1:30p.m.
- \* Discussed 2015 RMFMS Mineral & Gem Show speakers and field trips
- \* Established RMFMS Convention Delegate meal prices
- \* Pursue method for "Electronic Board Meeting"-George Tillman/Jim McGarvey

3. The WSMGS Board needs your help:

- A.-To encourage your club members to show off their special collections that are unique

**Continued at the top of page 4**

to Wyoming by displaying them at the 2015 RMFMS Show in Cody.

- B. For your club to consider hosting the 2016 State Show. The WSMGS will seek 501(c)(3) grants to reduce your expenses and provide assistance for the show.
- C. By considering becoming a WSMGS board member/officer. Most of the present board may be resigning prior to the 2015 Annual Meeting. With the work the present board has completed, being a future board member should require only limited time.

4. **Mark your calendar for these upcoming dates and events:**

April 1, 2015-Club Rockhound of the Year nominations due WSMGS Secretary.

May 1, 2015-State Rockhound of the Year nominations due WSMGS Secretary.

July 16, 2015(Thursday)-WSMGS Annual Meeting- 1:30p.m. (Cody High School Gym)

July 16-18, 2015-RMFMS Mineral & Gem Show. (Cody High School Gym)

## New rare dinosaur track site found in northern Wyoming

**The following information is a modified version from an Indiana University press release. Date of the original article is Nov. 16, 2000, Copyright 2014 Geoscience Adventures. All rights reserved (except for images and text as noted)**

BLOOMINGTON, Ind. -- The dinosaur record of the Middle Jurassic period (159-187 million years ago) is considered sparse worldwide, with relatively little known about dinosaurs from this period. However, recent discoveries of the most extensive Middle Jurassic dinosaur track sites in North America are changing that.

In 1997, near the town of Shell in the Bighorn Basin of northern Wyoming, Indiana University geologist **Erik Kvale** found extensive dinosaur track-bearing deposits in 167 million-year-old rock in the Sundance Formation that was previously thought to have been totally underwater during the time when dinosaurs lived.

Now Kvale and collaborators report the presence of an even older, more extensive dinosaur track-bearing deposit in the Bighorn Basin. The scientists presented their results today (Nov. 16) at the annual convention of the Geological Society of America in Reno, Nev.

The new discovery is in a meter-thick layer of rock in the Gypsum Spring Formation. Estimated to be **170 million years old**, this newly discovered layer preserves evidence that dinosaurs that inhabited this part of Wyoming may have been swimmers.

The **Gypsum Spring Dinosaur Track site** was first discovered in 1999 by Walter Parrs Jr., a New York City resident visiting a local ranch (**The Hideout**). It includes impressions made by land-dwelling two-legged dinosaurs that were small- to medium-sized, comparable to those found in the younger Sundance Formation. Some of the tracks were made by carnivorous dinosaurs called theropods.



Walter Parrs at Gypsum Spring Dinosaur track site discovery site

Outcrops containing Gypsum Spring tracks occur sporadically over a 2000-square-kilometer area. In some areas the track-bearing surface consists entirely of grooves that appear to be the remains of scratch marks made by dinosaurs whose feet briefly touched a muddy bottom while they were swimming. The groove marks have a size and spacing consistent with terrestrial dinosaur tracks found elsewhere in the Gypsum Spring Formation.

Unlike the Sundance tracks that preserve only the three toes and rarely the heel of the dinosaur's foot, many examples of toe and heel impressions have been found in the Gypsum Spring track ways. As a result, estimates of a dinosaur's speed based on foot size and stride can be made for these dinosaurs. Estimates of dinosaur speeds up to 9.2 kilometers per hour have been calculated.

**Article concluded at first column top of Page 5**

Interestingly, the researchers believe that algal and bacterial mats that once covered the tidal flats inhabited by these animals may have helped in preserving their tracks over millions of years. Such microbial mats are present on many of today's beaches and tidal flats. Within minutes to hours after the dinosaurs walked across a tidal flat, a thin microbial mat covered their tracks. This stabilized the tracks and prevented erosion of the track-bearing surface by wind or waves until it was buried by other sediments and eventually hardened into rock.

For the Middle Jurassic period in the United States, reptilian discoveries had been limited to Utah. These include: (1) the skeleton of one land-dwelling primitive crocodile-like reptile; (2) dinosaur tracks in the formation called the Entrada, which is several million years younger; and (3) a few small dinosaur tracks from the Sundance equivalent called the Carmel Formation. Therefore, the existence of abundant dinosaur tracks within the older Gypsum Spring Formation and Sundance Formation contributes significantly to knowledge of the geographic distribution of dinosaurs in North America during this time.

The original 1997 discovery in the Sundance Formation resulted in the establishment of the Red Gulch Dinosaur track site on public lands administered by the Department of the Interior's Bureau of Land Management. The Red Gulch site is a 40-acre area currently being developed by BLM as a dinosaur educational site accessible to the public.

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### Mo attends a Revival

Mo attends a revival and listens to the sermon. After a while, the pastor asks anyone with needs to come forward and be prayed over. Mo gets in line and, when it's his turn the pastor asks, "Mo, what do you want me to pray about?" Mo says, "Pastor, I need you to pray for my hearing." So the pastor puts one finger in Mo's ear and the other hand on top of his head and prays for a while. He removes his hands and says, "Mo how's your hearing now?" Mo says, "I don't know pastor, it's not until next Monday."

Courtesy "Joke of the day"

the club. At this same time, apparently, the state organization was undergoing a similar change; and apparently meeting some opposition. In some minutes two years later, the Laramie Rockologist's voted to support the previous vote in which the Wyoming Geological Society became known as the Wyoming Mineral and Gem Society." (**Jade State News-February 1983**)

**B.** At the Annual Meeting of the Wyoming Geological Society held in Cheyenne during the Wyoming State Show – "It was decided that the present by-laws were obsolete and that they be scrapped and new ones drawn up to replace them. Copies of all by-law changes to be sent to all state member clubs for approval and a final vote will be at next year's show." A hand written note on the minutes was-"change name to Wyoming State Mineral and Gem Society." (**Annual Meeting Minutes-June 5/6, 1953**)

**C.** "Wyoming State Mineral and Gem Society meeting and show were held in Casper.- - Treasurer report read with discussion as to the check of \$41.10 from the Wyoming Geological Society, this check was added to the balance of \$39.88 making a total of \$80.98 to be passed on to the next secy-treas of the state organization. - -Under old business Mr. Steege made a motion that we accept the constitution & by-laws as written by the Cheyenne club then amend these to fit the needs of our club."

There were several amendments discussed and adopted in rewriting the Wyoming State Mineral and Gem Society's by-laws. Minutes signed Wyoming State Mineral & Gem Society-Mrs. M.D. Hays, Secy-Treas. (**Annual Meeting Minutes June 4-6, 1954**)

**D.** In a letter to Mrs. George Fellows of Rawlins, Norbert Ribble of Lander states, in reference to filling out the Annual Report for the Wyoming Secretary of State: "Please indicate that this was formerly the Wyoming Geological Society and is now called the Wyoming Gem and Mineral Society." (Note-This name was not correctly stated by Mr. Ribble because in previously published documents the correct name was-Wyoming State Mineral and Gem Society.) (**June 18, 1954 letter**)

**E.** On August 24, 1954 the Wyoming Secretary of State-C.J. "Doc" Rogers-sent a letter to Mrs. George O. Fellows of Rawlins: "In compliance with the request from Mrs. M. D. Hays, we wish to advise that we do not have printed forms to be executed in connection with the change of name of the corporation. This document is usually drawn up by an attorney in the form of an Amendment to the Articles of Incorporation

Article concluded first column top of page 6

following the requirements of the corporation laws in the Wyoming Compiled Statutes, 1945.”

**(August 24, 1954 letter from WY Secretary of State)**

**F.** In a letter to Mrs. Fay West of the Douglas Jackalope Gem Club in Douglas concerning dues-  
”To join the Wyoming State Mineral and Gem Societies, you must send dues of ten cents per member-  
-.” (Note: author used WSMG “societies” which was not correct as stated in earlier published documents correctly as WSMG “Society”.) **(May 11, 1955 Letter signed Pres. Wyoming State Mineral and Gem Societies)**

**G.** At a meeting of the Cheyenne Mineral & Gem Society on April 6, 1956, it was reported that the change of name for their club with the Corporation Clerk of the Secretary of State’s office could be affected for \$1.00. It was voted that the club send the dollar covering the cost of the name change. However “at the same time the Attorney General of the State of Wyoming had under advisement an issue concerning the necessity of non-profit organizations having to publish changes of name. Under these circumstances the change of name can be affected with the Secretary of State’s office by a direct communication from the secretary of your organization without enlisting the aid of a lawyer and if the publishing fees are voided by the Attorney General your desire will have been accomplished for very little.” **April 10, 1956 Cheyenne Mineral & Gem Society Minutes by Margaret Acree -secretary)**

**H.** “The annual State Meeting of the Wyoming State Mineral and Gem Society for 1956 was called to order by Pres. Wm. Grout at 11:00 a.m. June 8 in Laramie. - - Under old business the change of the State Name was again discussed. Mr. Crest informed the delegates the name could be changed for the sum of one dollar (\$1.00) and he would be glad to go ahead and have it changed if the delegates instructed him to do so. Mr. Willis from Rawlins made a motion that Mr. Crest be instructed to go ahead with the changing of the name of the State Society name. Motion was seconded by Mr. Pebble of Casper. Motion was carried.” **( Annual Meeting Minutes June 8, 1956)**

**I.** The Wyoming Secretary of State, Thyra Thomson, approved and accepted the Articles of Incorporation submitted by the Wyoming State Mineral and Gem Society Incorporated. **(November 23, 1964)**

**CONCLUSION:**

The Wyoming State Mineral and Gem Society began in 1937 as the Wyoming Geological Society. The name change was initiated at the 1953 annual meeting but was not formally registered with the Wyoming Secretary of State until 1956. In 1964, an incorporation application was submitted to and approved by the Wyoming Secretary of State and the official name became the Wyoming State Mineral and Gem Society Incorporated.

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**Let’s talk about the weather:**

60 above - Floridians wear coats, gloves, and wooly hats.

Chicago people sunbathe.

50 above - New Yorkers try to turn on the heat.

Chicago people plant gardens.

40 above - Italian cars won't start.

Chicago people drive with the windows down.

32 above - Distilled water freezes.

Lake Michigan's water gets thicker.

20 above - Californians shiver uncontrollably.

Chicago people have the last cookout before it gets cold.

15 above - New York landlords finally turn up the heat.

Chicago people throw on a sweatshirt.

0 degrees - Californians fly away to Mexico.

Chicago people lick the flagpole and throw on a light jacket over the sweatshirt.

20 below - People in Miami cease to exist.

Chicago people get out their winter coats.

40 below - Hollywood disintegrates.

Chicago's Girl Scouts begin selling cookies door to door.

60 below - Polar bears begin to evacuate Antarctica.

Chicago's Boy Scouts postpone "Winter Survival" classes until it gets cold enough.

80 below - Mount St. Helen's freezes.

Chicago people rent some videos.

100 below - Santa Claus abandons the North Pole.

Chicago people get frustrated when they can't thaw the keg.

297 below - Microbial life survives on dairy products.

Illinois cows complain of farmers with cold hands.

460 below - ALL atomic motion stops.

Chicago people start saying. . ."Cold 'nuff for ya??"

500 below - Hell freezes over.

The Chicago Cubs win the World Series.

**Courtesy of "Joke of the day"**

# WYOMING GYPSUM

## WHAT IS GYPSUM?

**G**ypsum, in its pure form, is a soft sulfate mineral composed of calcium sulfate di-hydrate, with the chemical formula  $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ . Chemists call it Hydrous Calcium Sulfate because there is one molecule of calcium sulfate attached to two molecules of water. However most regional deposits of gypsum are the result of a sedimentation process resulting in a varied mixture of other minerals and gypsum and is classified as a type of sedimentary rock.

Pure rock gypsum is white, but other substances found as impurities may give a wide range of colors to local deposits. Rock gypsum may also be colorless to white, yellow, tan, blue, pink, brown, reddish brown or gray.

Pure gypsum crystals are classified as minerals and may be colorless, white or pearly, gray, brown, beige, orange, pink, yellow, light red, and green. These varying colors are created by a secondary process whereby the original gypsum crystal is affected by other minerals such as, copper ores, sulfur and sulfides, silver, iron ores, coal, calcite, dolomite, and opal.

All varieties of gypsum are very soft with a hardness of 1½-2 on the Mohs Scale. This is the most important identifying characteristic of gypsum, as any variety of gypsum can be easily scratched with a fingernail. Also, because gypsum has natural thermal insulating properties, all varieties feel warm to the touch.

### VARIETIES OF GYPSUM:

Gypsum most commonly occurs as large scale regional sedimentary deposits that consist of granular or compact sedimentary rock called **Rock Gypsum**. In its mineral form, isolated crystals of gypsum occur as “**selenite**” which occurs as transparent flattened and often twinned crystals. Selenite may also occur in a silky, fibrous form called “**satin spar**”. A very fine-grained white or lightly tinted translucent variety of gypsum, is called “**alabaster**”. In arid areas, gypsum can occur in a flower-like form, typically opaque, with embedded sand grains and is called “**desert rose**”.

**Selenite, satin spar, alabaster, and desert rose** are four varieties of the mineral gypsum; all four varieties

show obvious crystalline structure. The four “crystalline” varieties of gypsum are sometimes grouped together and called selenite. Though sometimes grouped together as “selenite”, the four crystalline varieties have differences. General identifying descriptions of the related crystalline varieties are:

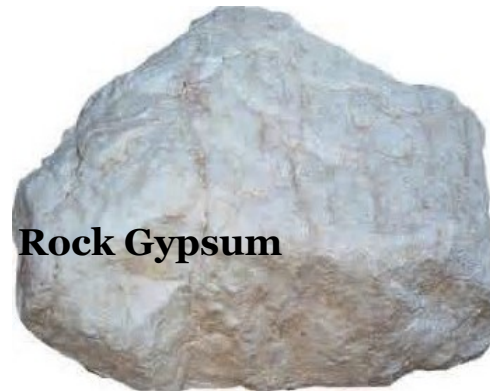
### Selenite:

- most often transparent and colorless: it is named after Greek σεληνη= “the “moon.”
- if selenite crystals show translucency, opacity, and/or color, it is caused by the presence of other minerals including druse (a coating of small crystal points)
- druse is the crust of tiny, minute, or micro crystals that form or fuse either within or upon the surface of a rock vug, geode, or another crystal



### Satin spar:

- most often silky, fibrous, and translucent (pearly, milky); can exhibit some coloration
- the satin spar name can also be applied to fibrous calcite (a related calcium mineral) – calcite is a harder mineral – and feels greasier, waxier, or oilier to the touch (**Sample on next page**)



**Alabaster:**

- Translucent with fine uniform grain
- characteristic color of white but often is associated with an oxide of iron, which produces brown clouding and veining
- used for making a variety of indoor artworks and carvings



**Desert rose**

- rosette shaped gypsum with outer druse of sand or with sand throughout – most often sand colored (in all the colors that sand can exhibit)
- the desert rose name can also be applied to barite desert roses (another related sulfate mineral) – barite is a harder mineral with higher density

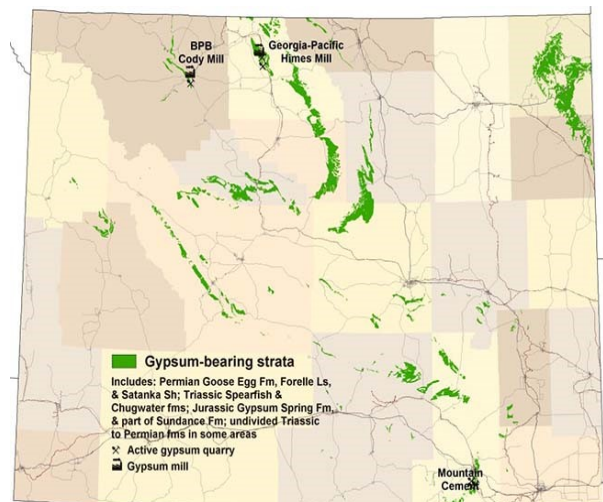


**FORMATION OF GYPSUM**

Gypsum deposits were formed millions of years ago when oceans covered most of the earth. As these oceans receded and evaporated, many smaller inland "dead" seas were formed. As the water in these isolated bodies of water evaporated and erosion added more minerals to them, the water became more and more "salty". As these pure mineral deposits settled out and were deposited on the bottom of these shallow bodies of water, the salts combined with decayed vegetation and other minerals, and eventually the result was stratified rock whose composition varied depending on what "impurities" were combined with the mineral to form deposits of sedimentary rock gypsum.

Gypsum is also locally formed in limited source areas as an evaporative mineral formed and deposited in alkaline lake muds, clay beds, salt flats, salt springs, and caves as well as in association with hot springs, from volcanic vapors, and sulfate solutions in veins. A hydrothermal anhydrite in veins is commonly hydrated to gypsum by groundwater in near-surface exposures.

The Gypsum Springs Formation is a stratigraphic unit of Middle Jurassic age. It takes the name from Gypsum Springs in Wyoming, and was first described in



WYOMING ROCK GYPSUM DEPOSITS



outcrop in Fremont County by J.D. Love in 1939. The Gypsum Springs Formation is composed of massive white gypsum in the lower part, and alternating gypsum, red shale, dolomite and limestone in the upper part of the formation. The Gypsum Springs Formation reaches a maximum thickness of 76 meters (250 ft) in central Wyoming. It occurs from the Black Hills in South Dakota through Wyoming and into southern Saskatchewan.

## USES OF GYPSUM

Gypsum is mined at three locations in Wyoming. Mountain Cement mines small amounts of gypsum near Laramie for use as a retardant in cement. Two plants in the Bighorn Basin of northwest Wyoming mine gypsum and process it into wallboard at nearby plants. The gypsum wallboard plants in Wyoming, the Georgia-Pacific Himes gypsum mill and the Cody Certainteed gypsum mill, have operated at capacity since 1995. Recently the construction booms in the Wyoming market areas of the Colorado Front Range, Utah Wasatch Front, and Pacific Northwest have increased the demand for construction materials, including wallboard. Wyoming has large gypsum resources capable of supporting additional production.

*Gypsum can be used in a wide variety of applications because of its unique chemical makeup which if heated, evaporates the attached water molecules allowing other gypsum products to be produced which have different properties:*

*Gypsum board is primarily used as a finish for walls and ceilings, and is known in construction as dry-wall, sheetrock or plasterboard.*

- Gypsum blocks are used like concrete blocks in building construction.
- Gypsum mortar is a mortar used in building construction.
- Plaster ingredients are used in surgical splints, casting molds, and modeling.
- Fertilizer and soil conditioner: plaster is a highly sought fertilizer for grain fields. It is also used in reducing the effect of high-sodium concentrations in soils
- As alabaster, a material for sculpture, it was used especially in the ancient world before steel was developed, when its relative softness made it much easier to carve.
- A major source of dietary calcium Used in baking as a dough conditioner, reducing stickiness, and as a baked-goods source of dietary calcium.<sup>1</sup> The primary component of mineral yeast food.
- A component of Portland cement used to prevent flash setting of concrete.
- In foot creams, shampoos and many other hair products.

### The preceding article adapted for internet references:

-[http://en.wikipedia.org/wiki/Selenite\\_%28mineral%29](http://en.wikipedia.org/wiki/Selenite_%28mineral%29)

-<http://en.wikipedia.org/wiki/Gypsum>

[http://en.wikipedia.org/wiki/Gypsum\\_Springs\\_Formation](http://en.wikipedia.org/wiki/Gypsum_Springs_Formation)

<http://www.wsgs.wyo.gov/research/minerals/gypsum.aspx>

<http://web2.geo.msu.edu/geogmich/gypsummining.html>

<file://localhost/http://geology.com:minerals:gypsum.shtml>

## A FAIRBURN AGATE FROM WYOMING

*By Mike Nelson, WDGMS member*

*([csrockguy@yahoo.com](mailto:csrockguy@yahoo.com))*

*I saw my first Fairburn back in the mid-1960's and decided "they were pretty neat" and my interest still remained. The initial Fairburn that I collected still sticks out in my mind---I had found a Rapid City (I suppose) AM radio station that played "rock & roll" that I could receive out on the plains east of the Hills. I had cranked up the radio and decided to look at some gravel exposures to see what was there--- Tommy James' "My Baby Does The Hanky Panky" was playing when I looked down and there it was. (Fig.1)*



Fig.2. Fairburn agate collected near Douglas, Wyoming. Length-7 cm. My Wyoming Fairburn (Fig.1) was collected near Douglas, Wyoming, from lag gravels associated with rocks of the White River Formation. That is I presume a Fairburn, or is it a Fairburn-type? Did it originate in the Black Hills or from the Hartville Uplift?

The "type area" for Fairburns is near (east) of the small village of Fairburn, SD along French Creek. It seems well established that the agates out on the South Dakota plains originated in the Minnelusa Formation of Pennsylvanian - Permian age and were transported away from outcrops in the Minnelusa Formation of the Black Hills by Cenozoic streams. Perhaps the best known site for observing in situ Fairburn agates is at Teepee Canyon west of Custer. ***Continued on page 10***

At any rate, South Dakota Fairburn Agates are "plains" agates mostly to the south and east of the Black Hills and mostly associated with terrace gravels along streams and/or lag deposits on top of the Eocene-Oligocene White River Group (Chadron Formation). However, Fairburns or Fairburn-type agates have been located in the adjacent states of Wyoming and Nebraska.

Pabian and Cook (1976) reported Fairburn-type agates at localities along the east-flowing Platte River in Nebraska. Most Agate hunters describe Fairburns as fortification agates with a holly leaf banding. They have some sort of red to orange banding due to iron oxides with the black banding ascribed to manganese.

Buena Vista Gem Works (2013) noted that in Nebraska the area of collecting is north of US 20 from Chadron to the Wyoming state line, generally following outcrops of the Chadron. Major collecting localities in Wyoming (Fig. 2) include Lance Creek and Hat Creek (southwest and reasonably close to the Hills) and Glendo and Guernsey (further to the south).

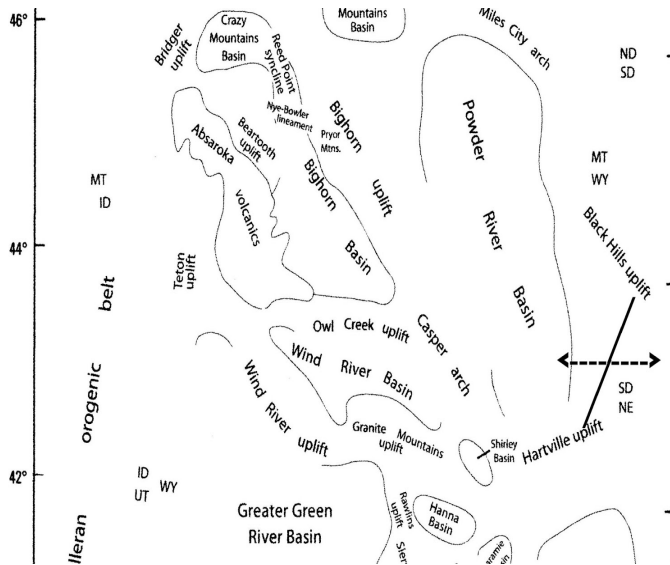


Fig. 2. Map showing location of Hartville Uplift in eastern Wyoming. The topographic expression of the Uplift is limited to the notation "Hartville Uplift" while a subsurface structural high (arch) extends northeast to the Black Hills. Map from Dickinson and others, 1988.

I find it interesting that Fairburn-type agates found at the Glendo and Guernsey locations in southeastern Wyoming most likely came from rocks similar to the Minnelusa Formation (Hartville Formation) exposed around the perimeter of the Hartville Uplift (Sutherland, 1990). This uplift is a Laramide structure, not unlike the Black Hills with which it connects on the north, but much more topographically and structurally subdued. It separates the Powder River Basin (northwest) from the Denver Basin. The Uplift does have a core of Precambrian rocks with a surrounding ring of Paleozoic and Mesozoic rocks; most of the uplift is now covered by Cenozoic rocks.

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Gemworks (2013) also reported "stray finds" of Fairburn-type agates from the Yellowstone River in Montana, near New Raymer, Colorado, (northeast Colorado) and along the Yampa River in northwest Colorado. The Chadron crops out near New Raymer but is absent from the Yellowstone and Yampa River localities.

It appears, then, that the Hartville Formation (Hartville Uplift) is stratigraphically equivalent to the Minnelusa Formation (Black Hills); both produce similar fortification agates. I also find it interesting that Pabian and Cook (1976) believed the "fortification agates [Fairburn-type] found in Nebraska originated chiefly in sedimentary rocks of Pennsylvanian age in the Hartville Uplift and the Front Range of Wyoming. Some may have originated in the Black Hills but this appears to be a minor source." It appears that Pabian and Cook (1976) expressed this belief because of statements in a 1955 paper by Shultz and Stout noting that "no physiographic evidence exists to show a major north-south drainage from the Black Hills to Nebraska."

***So, perhaps Nebraska Fairburn-type agates came from the Black Hills and/or from the Hartville or Front Range Uplifts?***

**REFERENCES CITED:**

--Buena Vista Gem Works:  
[www.buenavistagemworks.com/agates/fairburn](http://www.buenavistagemworks.com/agates/fairburn)

--Paleographic and Paleotectonic Setting of Laramide Sedimentary Basins in the Central Rocky Mountain Regions: Geological Society of America Bulletin, v. 100,

--Hause!, W.D., 1989, The Geology of Wyoming's Precious Metal Lode and Placer Deposits: Geological Survey of Wyoming Bulletin 68.

--Pabian, R.K. and Allan Cook, 1976, Minerals and Gemstones of Nebraska: A Handbook for Students and Collectors: Nebraska Geological Survey Educational Circular no. 2.

--Sims, P. K. and W. C. Day (compilers), 1999, Geologic Map of Precambrian Rocks of the Hartville Uplift, Southeastern Wyoming with a section on Mineral Deposits in the Hartville Uplift by Terry Klein: U. S. Geological Survey Map I-2661.

--Sutherland, W.M., 1990, Gemstones, Lapidary Materials, and Geologic Collectables of Wyoming: Geological Survey of Wyoming Open File

--The Ammonite-April 2014 by Western Dakota Gem & Mineral Society

# LAPIDARY TIPS: HOMEMADE ROTARY TUMBLER

Some rockhounds end up with rocks they wish to tumble & polish that are too large to put in their average size rotary tumblers. Heavy Duty commercial tumbling units available to tumble these larger stones usually start at \$700. A rotary tumbler, that can handle up to 4" diameter rocks with a total load weight (rock load + water + grit + soft soap + container) of 70+ pounds, can be built for about \$350 if all materials are purchased new:

1. **Tumbling Barrel:** Start with a 10" diameter x 18" length blue pvc water pipe with glue on end caps, and attach a pair of metal drawer handles to each lid. Line the interior of the barrel with a rubber "welcome" door mat which is 18" x 30" by cutting 1/2" from length and sealing joint with gorilla glue. Cut 2 more circular pieces of rubber matting slightly smaller than the inside diameter of the lids (1/8" all the way around) to allow the end caps to seal tightly on the barrel.

- Drill an 1/8" hole in the exact center of each lid. Lubricate a 24" threaded rod and slide on a piece of 5/8" x 17" vinyl tubing over the threaded rod with 1/2" inch rod exposed at each end. Thread a 3/8" nut onto each end of the rod up to the end of the vinyl tubing and then add large metal/ fiber washers over them. Lubricate the outer edges of one end of the tumbling barrel and position the metal rod through the center hole in the end cap. Apply a small amount of silicone around the center hole and rod then add a fiber washer and secure with a wing nut. In a vertical position, the total load can be added to the tumbler barrel and the open end sealed in a like manner. In order to "spread" the weight load while tumbling, a custom cut piece of foam camping pad was positioned between the end caps and stretched around the outer barrel and secured with Gorilla duct tape. Upon tumbling for a while heat/pressure buildup may initially cause a small amount of leakage.

To remove the lid, put the barrel in a vertical position and remove the outer washer and wing nut. Position a piece of wood under the underside of the end cap and tap the wood with a hammer upwards and evenly around the barrel until the end cap loosens.

2. **Tumbler Platform:** Construct a 23" X 28" framework platform by positioning 2" x 6"s boards on edge with one 14" long 2" x 10" board on top to attach the motor. The electric motor should be at least 3/4 h.p., 1725 rpm, 5/8" shaft, and rated "continuous duty". The motor mounting should allow movement to put on the v-belt and to adjust the tension on the belt-too tight will burn out motor bearings prematurely. Some motors have internal fans but also utilize an external fan to help cool motor-excessive heat will cause motor failure. If motor does not have sealed bearings, be certain to lubricate it sparingly with light oil specific to electric motors.

- Position 2-24" x 5/8" solid, smooth metal rods opposite the motor. Each of these rods need to be secured on both ends with self aligning heavy duty pillow bearings. Lubricate these bearings depending on the extent of usage. These roller rods should be spaced 6" apart and parallel to each other. Cover the roller rods with 18" lengths of rubber heater hose with 5/8" inside diameter-lubricate rod & inside of heater hose first in order to slide on easily.
- The pulleys used are 2"x5/8" on the motor shaft and 9"x5/8" on the drive roller.
- The motor shaft pulley should be positioned next to motor in order to protect the motor bearings from wearing out prematurely. The belt used should be power rated V-belt (such as O'Reilly Auto-Gat 6847).
- Make certain belt is lined up from pulley to pulley; try running to self align before fastening tight.

**Article submitted by Stan Strike and Roger Lyons, Cody, Wyoming, members of 59ers rock club.**

**Do you have an idea on Lapidary Projects? We would like to hear from you:**



## CLUB NEWS AND ANNOUNCEMENTS



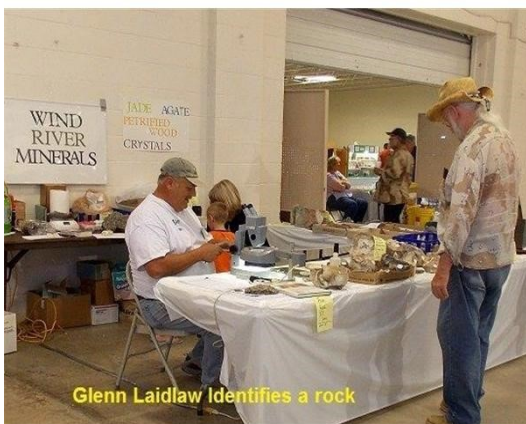
Ronald Dwight Harroun  
May 5, 1937—November 13, 2014

**Rock Springs** Ronald Dwight Harroun, 77, passed away on November 13, 2014 after suffering a stroke in late August. Ron was born May 5, 1937 in Denver Colorado to Stanley and Izorah (Massie) Harroun. Ron went to school in Lingle from kindergarten through 12th grade. He lived on a farm east of Lingle and graduated from Lingle-Fort Laramie High School in 1956.

In 1972, Ron married Rosemary Ring and they had a daughter, Joyce, in 1974.

Ron was a lifelong rock hound and collector. He joined the Rex Young Rock and Gem Club in the late '50s and held many officer positions in the club over the years. He was also a member of the Panhandle Club Gem and Mineral Club of Scottsbluff, Nebraska.

Ron's favorite rocks were Youngite and Slater Agate. Ron's rock collection also includes a spectacular display of fluorescent rocks. Ron was a valued member and supporter of Lingle's Western History Center. Ron had the knack for witching or dowsing using bent coat hangers. Using this skill, he found the foundation of the old Fort Bernard Trading Post. This site was later dug out by the Western History Center's team, which found thousands of artifacts.



Glenn Allan Laidlaw  
January 15, 1952—February 22, 2015

Glenn Laidlaw, of Riverton, died Sunday, February 22, 2015 at his home. Funeral services were to be held Saturday, February 28 at the Church of Jesus Christ of Latter-day Saints in Riverton.

Glenn Allan Laidlaw was born January 15, 1952, in Los Angeles, Calif. He was one of five children and was raised in southern California.

After graduating from Alhambra High School, he attended East Los Angeles College where he graduated with an associate degree in science. He also attended California State University, Los Angeles.

August 2, 1975, he married Kathleen Irma Tolman and together they had six children. In 1978, the family moved to Cheyenne, and in 1983 they moved once again to Riverton where they made their home and raised their family.

Glenn worked for the U.S. Geological Survey Water Resources Division and retired after 30 years of service, the last 10 years spent as the supervisor of the Riverton office.

He was a member of the Riverton Gem and Mineral Society in which he was active and he often led field trips around the state. He was a geologist, an avid mineral and jade collector, and an expert in mineral identification.

**PLEASE Respect the land and property owned and/or maintained by others**

**By Jim McGarvey and Linda Richendifer, Officers of the Riverton Mineral and Gem Society**

**To all WSMGS Contacts,**

Please see that this information is discussed at your next club meeting.

We are getting some complaints from the Gardners who control the land where the "Lysite Agate" is located. The Riverton club has a trip to the Lysite mine once a year. This trip is coordinated, and has been for over 40 years, with the Gardners and also with Kim Neilsen who owns the Lysite claim. The Gardner's are having people go onto that property without them being notified. **As rockhounds we should abide by the AFMS "Code of Ethics" and rule #1 says we will honor property by getting permission to be on the land.** This should be adhered to even if it is BLM land. The Gardners pay a fee to use this land and should be afforded the courtesy of being informed when we will be using that land and the opportunity of asking us not to go there. Sometimes they don't want people on the land due to their ranching operations.

Please, let's not lose the ability to hunt for Lysite Agate by abusing the privileges we have had for so many years.

Thank you!

**Jim McGarvey - RMGS Treasurer and Communicator**

**Linda Richendifer - RMGS President**

*Editor's Note:* For the convenience of reiterating, and for those who may be new to rockhounding, I have published a copy of the AFMS (American Federation of Mineralogical Societies) "Code of Ethics" as included with the above stated message from Jim McGarvey on a separate page, page 14. This can be copied and distributed as a handout for all members as a reminder of our obligations



**A large measure of the enjoyment of our hobby consists of collecting in the field. For that reason, the members are proud to endorse the following:**

### **"Code of Ethics"**

1. I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.
2. I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.
3. I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
4. I will use no firearms or blasting material in collecting areas.
5. I will cause no willful damage to property of any kind such as fences, signs, buildings, etc.
6. I will leave all gates as found.
7. I will build fires only in designated or safe places and will be certain they are completely extinguished before leaving the area.
8. I will discard no burning material - matches, cigarettes, etc.
9. I will fill all excavation holes which may be dangerous to livestock.
10. I will not contaminate wells, creeks, or other water supplies.
11. I will cause no willful damage to collecting material and will take home only what I can reasonably use.
12. I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
13. I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
14. I will cooperate with field-trip leaders and those in designated authority in all collecting areas.
15. I will report to my club or federation officers, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
16. I will appreciate and protect our heritage of natural resources.
17. I will observe the "Golden Rule", will use Good Outdoor Manners and will at all times conduct myself in a manner which will add to the stature and Public Image of Rock hounds everywhere.

Revised July 7, 1999 at the AFMS Annual Meeting

# PRINTSHOP GOT PAINTED

By Bob King, President, Cheyenne Mineral & Gem Society

Our club stores enough club items to fill a small garage at the Little Ol' Printshop plus they do all of the printing of these newsletters, our club calendars, show flyers, etc. at no cost to our club. When we can, we try and help them out and last August we offered to repaint their brick building. Through Bruce Keating's leadership and the help of Jim & Judy Myers and Bob King the project was completed on September 4. After some scraping and caulking, paint brushes, paint rollers and even tooth brushes (For those hard to reach places.) applied twenty gallons of undercoat, six gallons of white paint and a gallon of red trim paint to the building. The Printshop supplied the materials and our club supplied the equipment and "man" power.

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## **JSN Report – Shoshone Rock Club, November 2014**

By Linna Beebe, Secretary

Lynn Neale brought the meeting to order at the Powell Library meeting room. Lynn reported the new dues changes will commence in 2016 at \$15.00 per family and \$10.00 per individual. Our Christmas potluck will be held at the Garland Community Church on Tuesday, December 9<sup>th</sup>. Our new meeting day and place will be the 2<sup>nd</sup> Tuesday of each month and we will meet at the Garland Community Church. Officers for the upcoming year will be: President-Mary Ann Northrup; Vice President-Lynn Neale; Treasurer-Linda Thomas; and Secretary-Linna Beebe. Other members of the board will be: Richard & Mary Vogel, Roger Lyons, Jane Neale, and Tues-



Photo of Gary Olson, new member Shoshone Rock Club

Gary Olson, a new club member, was our program speaker and he talked about his love of rocks from a very young age. He displayed many beautiful agates and jasper cabochons that he has made, gave tips on working with stones, and how he as a blind person has learned to polish cabochons. His cabochons were supreme and a delight to behold. If anyone would like to have lessons and learn to make a cabochon, just give him a call. The club is fortunate to have Gary back in the club. His enthusiasm for rocks and working stones will be a great asset to the club.

dee Oswood. Stan Strike and Roger Lyons gave a report on the progress of the 2015 RMFMS mineral & gem show which is entitled Wyoming Petrified Forests and hosted by the WSMGS, Cody 59'ers, and Shoshone Rock Club. It will be held on July 16-18<sup>th</sup>, with set up on Wednesday the 15<sup>th</sup>. Time periods will be Thursday from 4PM to 8PM, Friday from 10AM to 8PM and Saturday from 10AM to 5PM. It will be held at the Cody High School Sweitzer Gym, 920 Beck Ave., Cody. Show Co-Chairmen are Roger Lyons and Larry Oliveria. Our club will be assisting and Cody 59'ers will reimburse the SRC club. Roger and Joy Lyons were thanked for being hosts for the evening. Ilene Olson won the door prize, a cabochon of Bruneau jasper, donated by Bill and Linna.

# ROCKY MOUNTAIN FEDERATION OF MINERALOGICAL SOCIETIES



Photo by Greg Willis



PHILIPMARTIN.COM

## 2015 MINERAL & GEM SHOW

### Wyoming's Petrified Forests

#### Featuring

#### Multi-State Dealers

Jewelry/Beads Fossils Gems  
Rocks Minerals

#### Demonstrations/Displays

Fluorescent Light Show  
Cabochon Making

Flint Knapping

Jewelry Making Lapidary Supplies

#### Educational Activities

Mineral/Rock Identification

Kids Rock Area Guest Speakers

Exhibits/Showcases Field Trips

Hosted by

Wyoming State Mineral and Gem Society  
Cody 59ers Rock Club Shoshone Rock Club

### JULY 16-18, 2015

Thurs 4pm-8pm ♦ Fri 10am-8pm ♦ Sat 10am-4pm

### CODY HS SWEITZER GYM

920 Beck Avenue ♦ Cody, WY 82414

### ADMISSION

Adults \$4 ♦ Students (K-12) \$2 ♦ Preschoolers Free



For more information, email us at  
2015codyrockshow@wyminalandgemsociety.org



[www.wyminalandgemsociety.org](http://www.wyminalandgemsociety.org)



## **JADE STATE NEWS**

**WYOMING STATE MINERAL AND GEM SOCIETY  
VERNE ORCUTT—EDITOR**

**P.O. BOX 697**

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