



## Wyoming Geology: Part II

by Dr. Mike Nelson csrockguy@yahoo.com [www.csmsgologypost.blogspot.com](http://www.csmsgologypost.blogspot.com)

(Adapted with author's permission by Stan Strike from RMFMS Newsletter-November 2013)

I have been fascinated with railroads since my childhood days in Kansas. As a youngster I was a regular visitor to the local train depot (Fig. 1) and spent long periods of time watching the telegrapher and trying to learn Morse Code (unsuccessful). Most warm days I would walk down to the tracks and watch the Doodlebug (Jitney) come to town. This piece of history was an interesting two car train with the front car devoted to the diesel engine and passenger compartment (a Pullman motor car) while the second car carried mail, cream cans and other odd bits of freight. This train, The Salina, Western and Lincoln Railroad (later purchased by Union Pacific) operated as the Plainville Short Line going east in the morning to the larger town of Salina and returning in the afternoon heading west to its night stop. So, one could pay a small fee and ride to the city of Salina, do some shopping/buying and return home in the late afternoon. The morning train carried the cream cans to a creamery in Salina while the afternoon train delivered mail from a regional post office. This was an interesting situation since one could receive two first class mail deliveries in the same day as the morning mail came by truck. I also fooled around catching the daily freight train for a few blocks before jumping off as the speed increased. Sometimes I rode it a little further and bailed off at a fishing hole! While in the 6th grade, my parents let me take my first solo trip to Kansas City to watch the major league baseball game. We got off at Union Station in Kansas City and took a bus to the old Municipal Stadium and watched the Athletics (before they moved to Oakland, CA). I shudder today at the thought of putting a 12 year old kid on the train. But, I survived, and times were different.

As an adult, I became interested in passenger trains and have ridden Amtrak all over the U.S. I also began reading about the history of railroading and became fascinated with the first train to span our country—the Transcontinental Railroad.

Fig. 1. The Union Pacific depot at Tescott, Kansas ca. 1950. The passenger train or Doodlebug made its last stop on 1 June 1958. Photo courtesy of Rolling Hills Wildlife Adventure.



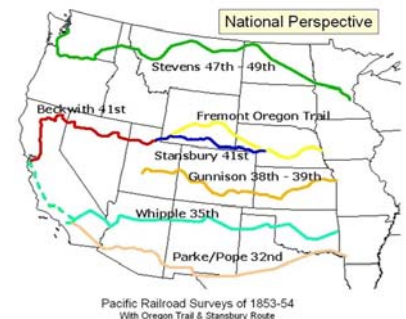
As a geology student, I soon began to realize that rocks and hills and rivers, the landforms of this country, dictated the routes of the early railroads. The most fascinating route of all was the "Gangplank" in southeastern Wyoming.

This year my mind became refocused on the feature, probably because I finished reading, for the second time, Stephen Ambrose's great book about the transcontinental railroad, *Nothing Like it in the World*. This to me is a wonderful description of how "geology" dictated the route of a major technological feat that

linked the U. S. East with the U.S. West. With the railway construction companies being paid by the mile of track laid, the book is an explanation of how the Union Pacific zoomed across the flat plains west of Omaha while the Central Pacific struggled going east across the Sierra Nevada Mountains. The idea of a U.S. railroad linking the Atlantic to the Pacific had been debated by Congress for many years, probably at least since the 1830's as Manifest Destiny was in full bloom. However, then as now, senators and representatives wanted the best for their districts and states so continued to debate and propose routes. Finally, in 1853, Congress gave the task of completing a number of railroad surveys to the U.S. Army Corps of Topographical Engineers with the results being presented back to Congress for a final decision. Secretary of War Jefferson Davis (yes, that Jefferson Davis) assigned the Corps to investigate five routes (Fig. 2).

Fig. 2. The western railroad surveys completed in the 1850's by the U. S. Army Corps of Topographical Engineers. From Ostresh, 2011

Route 1 - the Northern route (Lake Superior-Puget Sound). under the direction of Isaac Stevens, recently appointed territorial governor of Washington.



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The 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/>

# WSMGS INFORMATION AND UPDATES

*by Stan Strike, President*



1. **501(c)(3):** The Wyoming State Mineral and Gem Society was notified by the United States Internal Revenue Service on January 28, 2014 that our organization is now officially a 501(c)(3) organization. This will allow the WSMGS Board to accept donations to further support the WSMGS affiliated clubs that sponsor the WSMGS Wyoming State Rock Show, to promote earth science education, and to encourage the development of rockhounding & lapidary work in Wyoming. The 501(c)(3) designation for the WSMGS requires additional record keeping and accountability. An example being that for every donation a receipt must be provided with specific information and the monies received must be spent such that expenditures support the purposes set forth in the WSMGS Articles of Incorporation. WSMGS will also need to keep all financial records, including income and expense receipts, for a minimum of three years. It is required to provide transparency for our meeting minutes and financial records because we are registered as a 509(a)(2) public charity. Thus it has been said: -----“With Great Rewards Come Great Responsibilities”.

2. **RMFMS Convention & WSMGS State Rock Show:** The 2015 RMFMS and WSMGS State Rock Show will be held in Cody with date and place to be announced. The RMFMS Convention will be hosted by the WSMGS Board and the Rock Show will be hosted by the

Cody 59ers and the Shoshone Rock Club.

3. **Thank You:** The WSMGS Board would like to thank all the member clubs for the prompt return of their 2014 Dues and Election of Officers Form. Please note that the current contact information for each WSMGS affiliated member club is listed in this Jade State News. The use of e-mail addresses has been reduced to avoid spamming by “web spiders and web bots”. A complete **2014 WSMGS Club Directory** was sent to all club contacts on January 26, 2014 **for inter- club use only-not to be published for non-club members.**

4. **Required Historical Reports:** As an incorporated non-profit club, the Wyoming Secretary of State requires each WSMGS club to present to its’ members an Annual Financial Report and Activities Report. The Financial report should report balances, income, and expenses. The Activities Report can be a photo copy of the club’s minutes or a Summary of the club’s programs, activities, field trips, etc. *Please send a copy of your club’s **2013 Activity Report** to Richard Heumier (WSMGS Historian) 2402 East E Street-Torrington, WY, 82240 so it can be preserved in the WSMGS Historical Archives for future reference.*

5. **Club Contacts have been sent :** monthly Rocky Mountain Federation Newsletters, quarterly Jade State Newsletters, Club and State Rockhound of the Year forms, and 2014 WSMGS Club Directories. Contacts should make this information available to their club members via email or at meetings. Club members can also view this information on the WSMGS website: [www.wymineralandgemsociety.org](http://www.wymineralandgemsociety.org)

6. **WSMGS Board Meeting:** The WSMGS Board met January 10, 2014. Topics discussed were:

- \* Update on WSMGS Club Membership-New Officers and Dues
- \* Income from 2013 WSMGS State Show
- \* Date conflicts with WSMGS State Rock Show and RMFMS Convention—both July 11-13, 2014
- \* Payment to WY Secretary of State for annual incorporation fee by treasurer
- \* Payment of RMFMS dues & insurance for WSMGS Board by treasurer
- \* President filed 2013 IRS 990-N-e-postcard 1/12/2014
- \* Clarification of Club and State Rockhound of the Year “forms”
- \* Required change to WSMGS Articles of Incorporation (Article XII-Dissolution) by IRS
- \* Inventory and security of State trailer, Heritage case, and Jade case
- \* Progress report on 2014 WSMGS State Show
- \* Input for February 2014 Jade State News
- \* Review of WSMGS website

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- \* Development and application for digitized WSMGS logo
- \* Submission of Jade State News by Verne Orcutt for RMFMS newsletter competition

**7. Important 2014 Dates & Deadlines:**

March 1<sup>st</sup>-Club Rockhound of the Year forms due: e-mail or mail form (s) to WSMGS Secretary

April 1<sup>st</sup> -Rockhound of the Year Forms Due: e-mail or mail form (s) to WSMGS Secretary

May 1st- Deadline for Club News to Jade State News Editor-Verne Orcutt

May 17th/18th-Cheyenne Mineral & Gem Show

July 1st- Deadline for WSMGS Annual Meeting Delegate/Alternate Forms to WSMGS president

July 11th -WSMGS Annual Meeting-6:00pm-5211 Rambler-Mills

July 12th/13th-WSMGS State Mineral & Gem Show-Casper, WY

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## HISTORIAN'S REPORT

### *State Historian's Report*      *January 10, 2014*

I have been working on the phone with our President on trying to get everything needed to get the 501(c) (3) passed with the IRS department. The IRS set short, limited times on getting the exact information needed on their forms that we did not quite understand at the time of filling out the

original application. For instance: we used the Wyoming State dissolution clause and the I.R.S. would not recognize it. So that had to be changed to the IRS' dissolution clause in order to make it legal for the application to go through. We also checked a few boxes that did not need to be checked, which had to be changed and then re-faxed to the IRS office, all on about ten days notice each time during the Holidays. The form also had to have a projected budget for 2014, which the IRS required after talking to them.

The State Board and the State Clubs would like to thank Stan Strike for having the job of re-filling out the forms, calling and sending the State Secretary new information, and then making sure the correct forms reached the IRS by their deadlines. He has gone above and beyond the call of duty on this one, and I know that everyone, the State Board and the State Clubs, will all benefit from this in the future.

On January 7th, 2014, I will get the State's trailer inventoried, so that on the 10th of Jan., Natrona County Rock Clubs President, George Tillman, will take the trailer to Casper for the next State Show on July 12th & 13th, 2014 which will be held at the Parkway Plaza. I might add that George is also the State Board's Vice President and will attend our State meeting on January 10th.

I filled out the application for the registration of trademark except for the President's signature, date, and the notary's signature & seal. This will all have to be done first, then a photocopy, which will also go with the application to be returned with the file date and number to the board.

I am looking forward to the yearly reports from each of the Clubs that are due and hope that everyone has a great New Year.

*Richard Heumier* - WSM&GS State Historian



## Wyoming Geology part II continued from front page

Route 2- the 41<sup>st</sup> parallel route (Council Bluffs-Sacramento) by Edward G. Beckwith and Stansbury

Route 3- the 38th-39th parallel route (St. Louis-West Coast) headed by Capt. John Gunnison who was killed by Indians in western Colorado in June 1853, and the expedition was taken over by Lt. Edward G. Beckwith who completed the survey by following the 41st parallel

Route 4- the 35th parallel route (Little Rock-Los Angeles), commanded by Lt. A. W. Whipple

Route 5- the 32nd parallel route explored from the west by Lt. John Parke and from the East by Capt. John Pope (Roberts, 2011).

The construction of the railroad was delayed for several years due to other impending problems of the Nation—the American Civil War (1860-1865). But, as soon as hostilities ended, the building began, often using recently unemployed soldiers. The starting—ending points of the railroad had been determined: Sacramento in the west and Council Bluffs-Omaha on the east. However, the surveyors were still somewhat undecided as to exact routes.

At first, the Union Pacific favored following the old Oregon Trail north around the Laramie Range, up the Sweetwater River to South Pass (the easiest place to cross the Continental Divide), and then on to Utah via Fort Bridger. But, and this is a critical but, this Oregon Trail route was almost barren of coal until near Salt Lake City. Wagon Trains on the Oregon Trail traveled by horses/oxen and needed forage for fuel; trains were fueled by coal. Therefore, proximity to coal reserves was an important consideration for any route.

Slightly south of the Oregon Trail route was a stage route, established by Ben Holliday, some-times referred to as the Overland Trail. This route seemed like a good alternative since coal was more readily available in southern Wyoming. However, there was a big problem with this proposal since the railroad would need to ascend and summit the Laramie Range, the initial front range of the Rocky Mountains.

The Laramide Orogeny, was that mighty tectonic event (Cretaceous into the Eocene) that created the diverse ranges of the Rocky Mountains from Utah east to the Black Hills (the “real” ones in South Dakota) and from Canada to Mexico. The numerous ranges appeared at different times and involved both vertical uplift (often in the form of large anticlines) and faulting. However, nature dictates that everything that goes up (orogeny) must come down (erosion) and that is what happened in the Rockies.

By the late Eocene and Oligocene, the tectonic uplift had stopped and the mountains had generally been worn down and were being buried in their own debris. Adding to the sediment load was a vast amount of wind-blown volcanic ash coming in from the northwest. Well-known formations such as the White River Group, so well-exposed in the Badlands of South Dakota, represent stream sediments shed far to the east of the mountains. By the Miocene, only a few mountain ranges in Wyoming projected above the sediment fill (Fig. 3); and by about five million years ago (end of the Miocene), a vast alluvial, sloping plain extended from the low mountain fronts eastward to at least the Missouri River (current location); we know these rocks as the Ogallala.

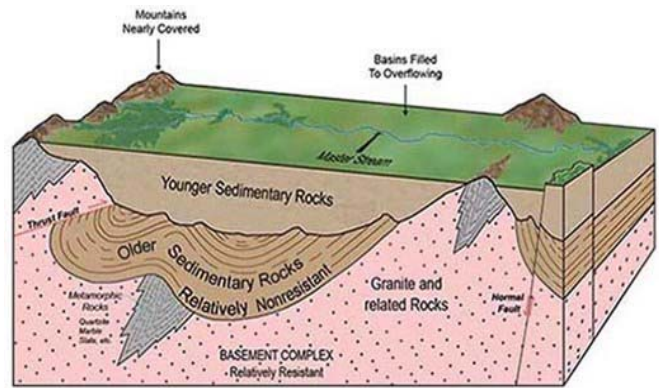


Fig. 3. Landscape of southern Wyoming during the Miocene with the basins filled to overflowing and many mountain ranges covered by their own eroded debris. A long sloping plain, the Ogallala Formation extended from the ranges eastward to perhaps the Missouri River (current site). Sketch courtesy of Wyoming Geological Survey.

Later, during the Pliocene, something in the earth's crust triggered a wide-spread and strong uplift of the entire Rocky Mountain region. Geologists term this as an epeirogeny—broad uplift of an entire region as opposed to “sharp” uplift, an orogeny. When this happened, streams begin to flow eastward off the mountains, and the sediments were stripped off the interior basins, the mountains, and the plains to the east, especially in the areas nearest the mountains (Fig. 4). The modern river drainages of the Rocky Mountains and Great Plains were becoming established.

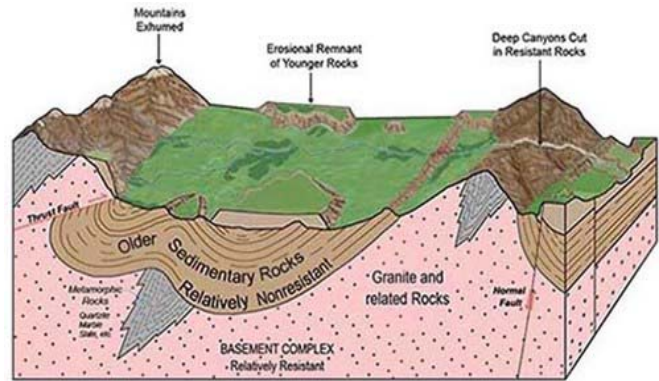


Fig. 4. Sketch showing current cycle of erosion that began in the Pliocene. The basins were excavated, streams cut across mountain ranges, and the rivers of the Great Plains were established. Much of the Ogallala Formation was eroded away and stream channels became established. Sketch courtesy of Wyoming Geological Survey

Today, the Laramie Range, a northern extension of the Colorado Front Range, extends from the Colorado—Wyoming state line north and west to near Casper, Wyoming. East of the mountains is a section of the Great Plains termed the High Plains with Tertiary rocks exposed at the surface. The Paleozoic and Mesozoic rocks, mostly in the subsurface in the Plains, are upturned and eroded as they meet the Precambrian granite of the Range (Fig. 5). The Laramie Range, with Laramie Peak at 10,272 feet,

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### Wyoming Geology Part II concluded:

is approximately 3000 feet higher than the rocks of the Great Plains. If the Union Pacific Railroad was to ascend the Laramie Range, the challenge would be to establish a route with minimal grade, minimal fill work, and a minimum number of trestles. That route from the Great Plains over the Front Range of the Rocky Mountains, later named the Gangplank,

### ***"What is the Gangplank"?***

Dodge of the Union Pacific. While people intent on building a railroad over the Black Hills [Laramie Range] had seen the Gangplank for a period of 15 years, Dodge was the first to connect the dots and realize the potential as a rail route.

### ***What is the Gangplank?***

Essentially it is a piece of the Ogallala Formation that escaped erosion along the mountain front and actually extends from the Great Plains up to the summit of the granite core of the Laramie Range (Fig. 5). The Gangplank is the only place along the entire Rocky mountain Front, between Canada and Mexico, where a traveler could simply walk up a slope from the plains to a mountain summit.

Fig 5. Sketch showing relationship of the Gangplank (Ogallala Formation) to the Laramie Range. Adapted from Ostresh, 2011.

The rest, as they say, is history as the Union Pacific passed through Cheyenne in September 1867, crested the Laramie Range at Sherman Pass (at 8640 feet, the highest point above sea level on the railroad) and reached Laramie in May 1868. "When the track got beyond Laramie, Congress removed Wyoming from Dakota Territory and gave it territorial status of its own [It became a state in 1890, the 44th state]. At the beginning of 1877, Wyoming had fewer than a thousand white inhabitants; by early 1868, thanks to the railroad, it was estimated to have forty thousand white people [the population today is ~ 564,000—total]." "Next to winning the Civil War and abolishing slavery, building the first transcontinental railroad, from Omaha, Nebraska, to Sacramento, California, was the greatest achievement of the American people in the nineteenth century." Stephen Ambrose

The Transcontinental Railroad was begun in 1863 and completed on May 10, 1869—a distance of 1,907 miles in only six years thanks to the Wyoming Gangplank! The building of the first transcontinental railroad has often been hailed as the major engineering feat in U.S. history. However, few people know that an accidental erosional remnant helped pave the way for completion of this massive project (Fig. 6).

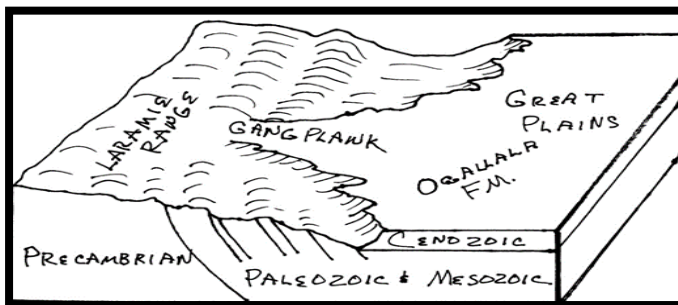
Fig. 6. Looking eastward toward Cheyenne at "the Gangplank." Interstate Highway 80 and the Union Pacific Railroad follow the Gangplank from the High Plains in the distance onto the Precambrian core of the Laramie Range. Photograph courtesy of R. D. Miller, U.S. Geological Survey.

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Here is a handful of Wyomingite jokes to ponder...

Courtesy of: <http://www.libertarianpunk.com/2010/03/you-know-you-are-a-true-wyomingite-when/>

### **You know you are a true Wyomingite when:**

1. Your idea of a traffic jam is ten cars waiting to pass a tractor on the highway.
2. "Vacation" means going up north past Worland for the weekend.
3. You measure distance in hours.
4. You know several people who have hit deer more than once.
5. You often switch from "heat" to "A/C" in the same day and back again.
6. Your whole family wears brown and gold to church on Sunday.
7. You can drive 65 mph through 2 feet of snow during a raging blizzard, without flinching.
8. You see people wearing hunting clothes at social events.
9. You install security lights on your house and garage and leave both unlocked.
10. You think of the major food groups as beer, fish, and venison.





# WYOMINGITE

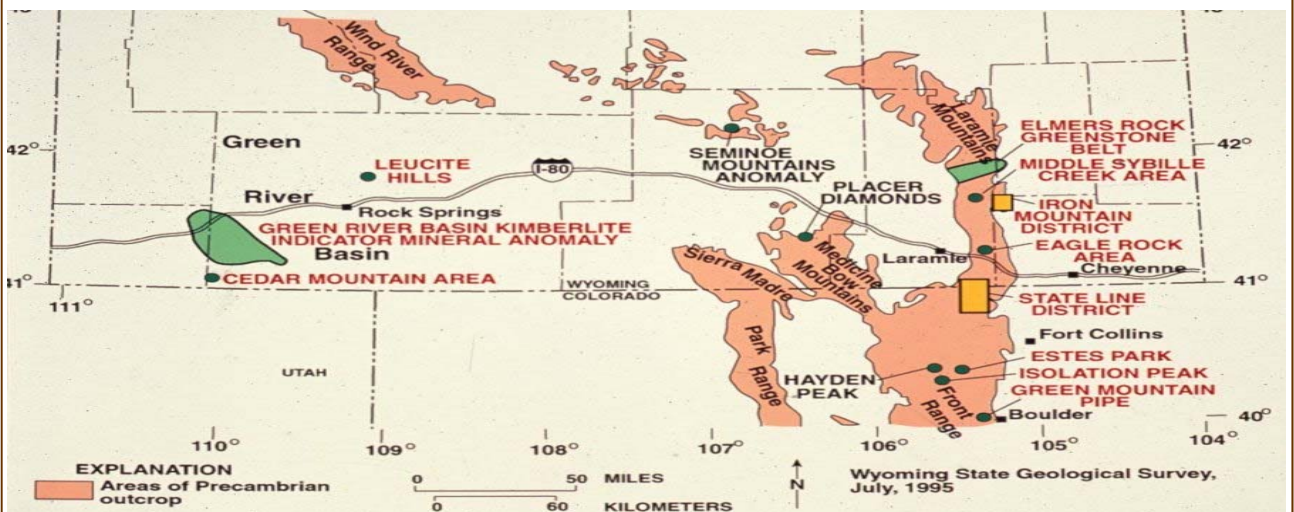
## ABSTRACT SUMMARY:

Wyomingite is an igneous rock containing unusually high amounts of the element potassium. It is composed of the minerals phlogopite (the larger grains), leucite, diopside, and apatite in a matrix of uncrystallized volcanic glass. It is found northeast of Rock Springs, Wyoming, in the Lucite Hills, where it occurs as the result of lava flows and cinder cones of Quaternary Age (about 1.1 million years ago). It has been mined in small amounts for decorative stone and has been considered as a source of potash. Rocks of this type are associated with metallic ores and diamonds.



## HISTORY RECENT:

In 1871, S.F. Emmons, while undertaking a mineral survey of the 40th parallel in the western United States discovered the first occurrence of leucite-bearing rocks on the North American continent. In recognition of this discovery, the series of buttes and mesas composed of these rocks were named by Emmons (1877) as the Leucite Hills. The location of the Leucite hills is: northeast of the town of Superior, north-central Sweetwater County, southwestern Wyoming, USA (~41° 47' 53" North, 108° 54' 54" West).



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Subsequent petrographic study of the rocks by Whitman Cross (1897) resulted in the definition of three new rock types: wyomingite (after the State of Wyoming); orendite (after Orenda mesa - etymology unknown); and madupite (from the Shoshone word "madupa", meaning "sweetwater" and the name of the county in which the Leucite Hills are located).

The Leucite Hills, northeast of Rock Springs, Wyoming, are a great place to visit and examine the physical geology related to rare volcanic eruptions. The rare volcanic rock type in this region are known as lamproites (ultrapotassic mafic volcanic rocks) that are closely related to kimberlites. Lamproites are so rare that the volcanic rocks from the Leucite Hills were originally identified and named as 'Wyomingite'. It wasn't until years later that it was known that similar rocks had been found in Western Australia and were also given local names. **Five petrographic varieties of lamproite are now recognized from the Leucite Hills.** In the 1980s, it was decided that lamproites would be named by their mineralogy so Wyomingite is properly called "diopside leucite phlogopite lamproite". The principal minerals that make up Wyomingite are: leucite, diopside pyroxene, phlogopite mica, fluorapatite, katophorite, and a very high content of potash.

Wyomingite has a vesicular (many small holes) surface texture and usually consists of phenocrysts (large crystals) of phlogopite set in a matrix consisting of microscopic crystals of leucite and diopside. Occasionally Wyomingite also has microscopic crystals of apatite, priderite, and wadeite. It cannot not be called pumice because it is lower in silica content and is classified as an ultramafic igneous rock.

Lamproites and Kimberlites have tremendous economic importance because they are host rocks for metallic ore deposits and gem-grade – industrial grade diamonds. Lamproites and Kimberlites are rare igneous rocks that are only created under special conditions.

## GEOLOGIC SETTING:

The ancient core of the North American continent, the Archean craton, extends southward from Canada and lies beneath most of Wyoming where it is known as the Wyoming craton or Wyoming Province. However, exposures of this ancient core are exposed at the surface in several of Wyoming's mountain ranges, e.g. the Medicine Bow and Sierra Madre Mountains. The remainder of the craton lies under a thick layer of sediment fill in the Wyoming basins. The Wyoming craton is thought to have been in place by 2.7 billion years ago and was subsequently affected by a regional metamorphic event at 1.9 to 1.7 billion years ago.

The Archean Wyoming craton, including the Proterozoic Front and Laramie Ranges, contains the largest fields of kimberlites and lamproites in the US. In terms of their regional tectonic setting the Leucite Hills occur in the northern Colorado Plateau area midway between the Uinta Mountain Uplift (to the south west) and the Wind River Range (to the north). These two Proterozoic-to- Archean complexes were structurally affected by tectonic thrusting in the Late Cretaceous to Palaeogene. Leucite Hills' lamproites occur less than 200 kilometers north of the southern limit of the Archean Wyoming Craton, whose southern limit is defined by the Cheyenne Belt,

a major shear zone separating Proterozoic rocks of the Colorado Province from the Archean Wyoming craton.

At the time of lamproite formation at the surface, the Leucite Hills were relatively stable, having experienced regional uplift, and were relatively insulated from basin-and range extensional faulting. The Leucite Hills are underlain by the Archean Wyoming Craton and xenoliths crystals of this basement rock can be found in some of the lamproite igneous rocks.

Wyomingite is thought to originate from the partial melting of a mica peridotite rich magma derived from the upper mantle at a depth of about 49 kilometers. This magma was a mixture of partially melted mica peridotite, gases, and mineral crystals. As this mixture of magma traveled toward the surface, it separated because of different densities and cooled resulting in different mineral crystals forming at different temperatures and pressures. Because leucite minerals are late-crystallizing minerals, glassy varieties of Wyomingite contain more abundant leucite.

Wyomingite is part of the Leucite Hills Volcanic Province, which experienced volcanic eruptions from the Late Pliocene to the Early Pleistocene (0.9 to 3.1 million years ago). The principal lamproite occurrences of the Leucite Hills consist of fourteen lava-capped buttes and mesas, with half of these also containing small cinder and lava cones. The entire Leucite Hills volcanic field is considered to consist of about 50 individual lava flows, which vary from 20 centimeters to 15 – 21 meters in thickness and are of limited surface area. Vents are usually associated with most lava flows, although vents are not conspicuous at this location because the vents were removed by erosion or were buried by lavas, which is common for lamproite eruptions. The majority of the small flows originating from lava cones and "plug-like" domes, therefore lavas never covered the entire Leucite Hills region.

*Wyomingite is rare in that it is formed in very limited locations on Earth under very special conditions. It is also complex in the number of mineral variations that identify it as a unique igneous rock. Perhaps Wyomingite will be our Wyoming State Rock some day in the future? It does seem to represent the State of Wyoming and its people as being rare, unique, and complex.*

**\*\* Information for the preceding article was compiled using the following references:**

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5. "Kimberlites and Lamprolites of Colorado and Wyoming, USA by Coopersmith, Mitchell, & Hausel <http://gemstonebookstore.pbworks.com/f/kimberlites-lamproites+Colorado-Wyoming.pdf> - -
6. "Igneous Rocks" [http://en.wikipedia.org/wiki/Igneous\\_rock](http://en.wikipedia.org/wiki/Igneous_rock)
7. "The Leucite Hills, Wyoming" Blog by w.D. Hausel [http://leucitehills.blogspot.com/2009\\_02\\_01\\_archive.html](http://leucitehills.blogspot.com/2009_02_01_archive.html)



## Wyoming Mineral and Gem Society Board Meeting

January 10, 2014, Riverton, WY

On January 10, 2014, the WSMGS Board met in Riverton. One of the items clarified was the "Club" and "State" Rockhound of the Year. The WSMGS By-Laws state:

Article III-Section 8. Recognition of WSMGS Members. The WSMGS Board of Directors will promote the Club Rockhound of the Year recognition program.

Each WSMGS member club may nominate one adult member (or if a couple -2 adult members) and one junior member to be recognized at the annual membership meeting and forwarded to the RMFMS and AFMS for recognition as Club Rockhounds of the Year. Nominations may also be submitted by member clubs or individuals to WSMGS for consideration as WSMGS State Rockhound of the Year.

The 2013 Club Rockhound of the Year (ROY) forms are due MARCH 1, 2014. These Club R.O.Y. nominations will be recognized at the WSMGS Annual Meeting and will be eligi-

ble to be selected as the WY State Rockhound of the Year. In addition, all of the Club Rockhounds of the Year individuals will also be forwarded to the RMFMS for possible recognition in their Rockhound of the Year Program.

The WSMGS By-Laws also allows clubs and individuals to utilize the WY State Rockhound of the Year Forms to nominate an individual or couple IN ADDITION TO THE CLUB ROCKHOUND OF THE YEAR NOMINATIONS. These additional forms are due MARCH 31, 2014.

BOTH FORMS-CLUB AND STATE ROCKHOUND OF THE YEAR FORMS ARE ATTACHED AND MAY BE FOUND ON THE WSMGS WEBSITE:

[www.wymineralandgemsociety.org](http://www.wymineralandgemsociety.org) under Who We Are/Forms.

*Stan Strike*

WSMGS President

## WHAT'S ALL THE BUZZ FROM THE ALAA & BRC??

Perhaps you have read articles or listened to programs concerning proposed changes to the use of Federal Lands in Wyoming. As Wyoming rockhounds we need to educate ourselves about these proposed changes in our state since over half of the surface and two-thirds of the minerals are owned by the federal government. Federal agencies are bound by laws and regulations to allow a balanced "multiple-use" of this federal land. Federal agencies are also bound by democratic processes that require them to allow public input to create or modify multiple-use regulations. A review of the present multiple-use regulations affecting regions within Wyoming is required by law every 20 years.

Roughly 20% of Wyoming (13,000,000 acres) is presently under review by the B.L.M. (Bureau of Land Management) and the United States Forest Service. This area includes the Wind River Mountains, the Big Horn Basin, and the Powder River Basin. The B.L.M.'s Resource Management Plan (RMP) for the Lander region is about complete, the Big Horn Basin is about half completed, and the Buffalo & Rock Springs RMP's are just starting.

During the past 20 years, many changes have occurred in Wyoming that require changes in the multiple-use plan that allows the public and private use of these Federal lands and also protects the plants, animals, and environment for future generations.

Energy companies have new technologies that allow them to develop previously inaccessible hydrocarbons, to create wind farms, and to identify mineral reserves. The public has increased their recreational use of these federal lands as they have become more mobile with snowmobiles, quads, and dirt bikes. Ranchers and farmers with federal land livestock leases are being pressured by the public for increased use of this land for recreation. With the increased use of this Federal land some plants and animals have been displaced and their populations affected. Presently the Sage Grouse populations have declined to the point of almost being endangered. Thus Federal agencies may be required to recommend that certain activities be limited or entire areas be protected and preserved.

As individual rockhounds, it is important to read the information about these proposed changes that affect our recreational use of Federal Lands. By attending the public meetings or by submitting written statements related to the proposed Federal land use regulations, you can provide valuable testimony to allow the continued use of Federal lands by Wyoming rockhounds.

If you would like to have your voice heard as part of an organized group, consider joining the American Lands Access Association (ALAA): Dues are \$25 per individual or couple or \$50 per rock club or society. Send your dues payable to "ALAA"-Membership Chairman, P.O.Box 54398-San Jose, CA 95154. The Blue Ribbon Coalition (BRC) is a national recreation group that champions responsible recreation, and encourages individual environmental stewardship. Dues are \$29/individual or \$100/organization. The BRC web address is <http://www.sharetrails.org/> (adapted from The Billings Gazette-1/26/2014-"Management Plan Defines Federal Land Battle")

## WSMGS WY STATE ROCKHOUND OF THE YEAR NOMINATION FORM

The Wyoming Mineral and Gem Society (WSMGS) Board encourages all of the WSMGS affiliated clubs and their individual members to utilize this Nomination Form to recognize club members who have made outstanding contributions to their local club and/or to the WSMGS. Nominations can be made by individual clubs and by individuals within each club-clubs are not limited to one nomination. All nominations will be judged by a knowledgeable group of 3<sup>rd</sup> party individuals who are not members of WSMGS. The winner of the WSMGS Rockhound of the Year will be announced at the WSMGS Annual Meeting.

1. Name of Nominated Person: \_\_\_\_\_

2. Address of Nominated Person: \_\_\_\_\_

3. Nominated Person's Current WSMGS Club Memberships:

\_\_\_\_\_

4. Individual's Contributions to WSMGS Affiliated Clubs:

\_\_\_\_\_

5. Individual's Contributions to WSMGS:

\_\_\_\_\_

6. State examples that this individual educates others about the Earth Sciences associated with Rockhounding:

\_\_\_\_\_

7. State examples that individual observes & promotes the American Federation of Mineralogical Societies "Code of Ethics":

\_\_\_\_\_

8. Summarize why this individual is being nominated as WSMGS Rockhound of the Year:

\_\_\_\_\_

-----  
Club/Person Nominating the above individual:

Name \_\_\_\_\_ Club \_\_\_\_\_

Phone \_\_\_\_\_ E Mail \_\_\_\_\_

**Return this form to the current WSMGS Secretary by March 31<sup>st</sup>:**

**Mary Ann Northrup-736 Lane13-Powell 82414 ([man4472@hotmail.com](mailto:man4472@hotmail.com)) (307-754-4472)**

## WYOMING CLUB ROCKHOUND OF THE YEAR AWARD

Purpose: Each Wyoming State Mineral and Gem Society member club/society may nominate individuals as their Club Rockhound of the Year as to the WSMGS by-laws (article III-section 8):

-- One (1) adult member OR one (1) adult couple

AND

-- one (1) junior member (Age 17 or Younger)

These WSMGS member nominees will be recognized at the Annual WSMGS Membership meeting and eligible to be selected as Wyoming State Rockhound of the Year. In addition all nominees' names will be submitted to the Rocky Mountain Federation of Mineralogical Societies (RMFMS) for possible recognition as American Federation of Mineralogical Societies (AFMS) Club Rockhound of the Year.

Procedure: Each WSMGS member club should submit this form to the current WSMGS Secretary:

Mary Ann Northrup-736 Lane 13-Powell, WY 82435

or email: [man4472@hotmail.com](mailto:man4472@hotmail.com) (send in pdf format version only)

Deadline for Nomination Form Applications: March 1st

### CLUB ROCKHOUND OF THE YEAR NOMINATION FORM

1. Name of Adult Nominee(s) \_\_\_\_\_

\_\_\_\_\_

2. Name of Junior Nominee \_\_\_\_\_

3. Name of WSMGS Member Club/ Society submitting nomination

\_\_\_\_\_

4. Name of Club individual submitting nomination form \_\_\_\_\_

5. Please include separate documentation for each nominee that includes a 100 word or less summary, photo(s), and any additional information that distinguishes the individual(s) as a WY Club Rockhound of the Year.



# 53rd Annual Fort Collins Rockhounds Gem & Mineral Show

## March 2014

**Fri. Mar. 28 4pm-8pm**

**Sat. Mar. 29 9am-6pm**

**Sun. Mar. 30 10am-5pm**

*Featuring  
Feldspar & Petrified Wood*

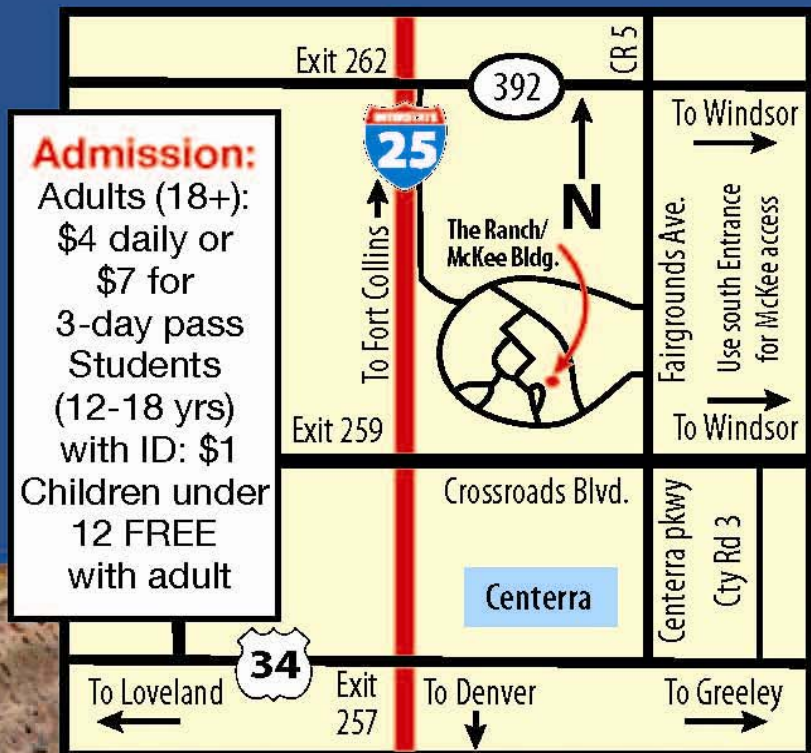
Thomas M.  
McKee 4-H,  
Youth &  
Community  
Building,  
Larimer  
County  
Fairgrounds

**FREE  
PARKING!**



**The Ranch**

Details at  
[www.fortcollinsrockhounds.org](http://www.fortcollinsrockhounds.org)  
Show Chairman: 970.493.6168  
(No dealer space available)  
[showchairman@fortcollinsrockhounds.org](mailto:showchairman@fortcollinsrockhounds.org)





# ***CLUB NEWS AND ANNOUNCEMENTS***

## *In Loving Memory*

### **FAMOUS WY ROCKHOUND DIES**

On December 26, 2013 long time rockhound, **Ralph E. Platt**, died at the age of 100. Many of you knew Ralph and had toured his mineral collection at his ranch near Encampment, Wyoming.

Our club use to have field trips to his ranch for garnets, quartz crystals, mica and euxenite. He was one of the two or three individuals who started the Rocky Mountain Federation of Mineralogical Societies of which he is a past president. Ralph was a dealer at the Tucson Mineral Show in the 1970's when the show was held at the Fair Grounds. In the 1950's he wrote articles for "Rocks & Mineral Magazine."

This year he is being nominated to go into the National Rockhound Hall of Fame. Right up to his death he was still identifying mineral specimens for people.

He will be missed.



*Bob King, Ralph Platt, Harriet Platt 2006*

*Article and Photo Courtesy of Bob King , Cheyenne Mineral and Gem Society*

# Affiliated Clubs

## Meeting days—time—and Location

**Cheyenne Mineral & Gem Society: Sept-May 2<sup>nd</sup> Wednesday-7:00pm IBEW-810 Fremont Ave-Cheyenne**

**\*89 Members (11 Life/Honorary)**

**Cody Fifty-Niners Rock Club: Meet 4<sup>th</sup> Friday-7:00p.m.- Park County Courthouse-Cody**

**\*63 Members (3-Honorary/Life)**

**Natrona County Rockhounds- 1<sup>st</sup> Thursday-7:00pm-5211 Rambler-Mills, WY (Clubhouse)**

**\*73 Members (9 Honorary/Life)**

**Rex Young Rock Club: Meet 2<sup>nd</sup> Wednesday-7:00pm-Senior Center-216 E 19<sup>th</sup>-Torrington**

**\*23 Members**

**Riverton Mineral and Gem Society: Sept.-May- 2<sup>nd</sup> Monday-7:00pm-303 E.Lincoln/Riverton**

**\*160 Members ( 1-Honorary/Life, 3 Junior)**

**Shoshone Rock Club: Meet 1<sup>st</sup> Tuesday-7:30pm-Library Club Room-217 E. 3<sup>rd</sup> St.-Powell**

**\*43 Members (3 Honorary/Life)**

### Shoshone Rock Club, Dec. – Jan. 2014

**December 10, 2013:**

Despite snow lightly falling, 24 members and guests of the SRC met for a Christmas Potluck at the Garland Community Church. As usual, an abundance of food was brought in. Mary Ann Northrup cooked a turkey, provided by the club, and she brought in the usual trimmings of potatoes and giblet gravy. Guests attending were Rex Rich, son of June Rich, and her brother Derrell Childs, and also Justin Johnson. Members & guests signed the attendance book, and when the dinner was over Mary Ann, Donna Brasher and Linna Beebe, passed out the wrapped gifts member brought in for exchange. It was so nice to see members be adventurous and brave the weather to attend. There are always interesting rocks or fossils, etc. to see when attending a meeting or opportunity to learn something new.

**January 7, 2014:**

New club president, Linda Thomas brought the meeting to order with 17 members and visitors in attendance. Guests were Ken & Eileen Pike, David Nyffler, and Elton Tophoj. Ken and Eileen became members of the club that

evening. Stan Strike, President of the WSMGS, and also a member of the club, gave a report on the Rocky Mtn. Federation show planned for 2015. He says Federation club members have to bid to become hosts for show, but the preferred site for the show in Cody, cannot be reserved but only one year in advance. Stan won the door prize provided by Julie Hoot, a beautiful sample of mica from S.D. Lynn & Jane Neale were hosts for the evening and served a great chili, plus more. Linna Beebe provided the program for the evening, a 45 minute program on CD/DVD shown on the Library Smart Board, entitled Flint Knapping by Dr. Bruce Bradley. Dr. Bradley used a fairly good size piece of rough obsidian, perhaps a five pound chunk, and proceeded to show how and what angle to hit the obsidian properly with a hard round stone to make a number of flint knapped items. Members and guests brought in flint knapped items from their collections, and some brought rough obsidian. Ned Kelley brought in some other excellent flint knapping videos, which were of interest to some for possible purchase.

Respectfully submitted, *Linna Beebe*



## NEWS FROM REX YOUNG ROCK CLUB

Hey, here is a note to say what our club has been up to the last few months. Some of our members went on a trip to Deming, N.M. last fall and found some great rocks.

Our club went on a field trip back in September to Glendo. It was a nice day to be out.

In November we gained a new member and we also decided to keep the same officers for the upcoming year. Kim Nielsen- President, V.P.-Ron Harroun, Treasurer-LeRoy Meinger, Secretary-Joyce Trowbridge.

In December we held our Christmas party at

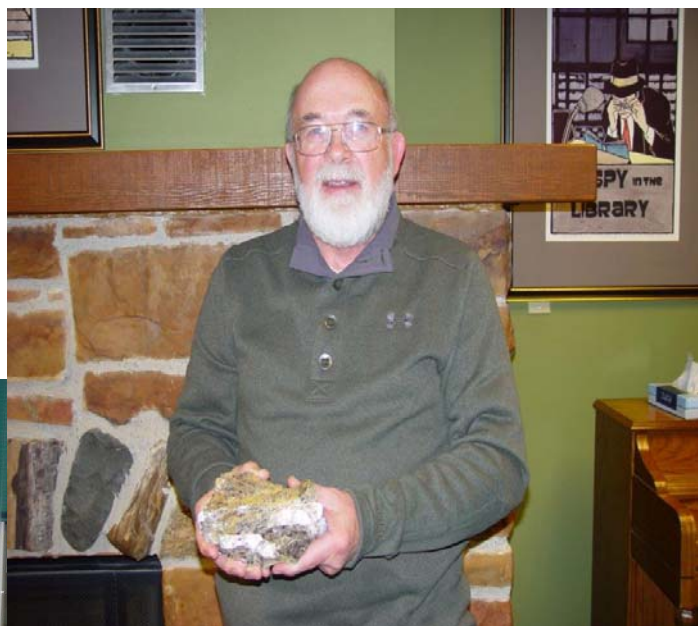
the Rustic Tavern in Morrill, NE. There was a great turnout for it. We enjoyed a wonderful meal and ended the evening with visiting and winning door prizes.

We held our first meeting of the new year with ten members present. Dale and Joe won the door prizes and LeRoy brought the refreshments. We will plan on going on some field trips when the weather gets warmer!

Joyce Trowbridge, Reporter

## Photos from the Shoshone Club

Stan Strike attended the January meeting of the Shoshone Rock Club and won the door prize brought in by Julie Hoot, a piece of mica she purchased in South Dakota



Shoshone Club members and guests opening exchange gifts at the Christmas Potluck Party.

*Photos courtesy Beebe Beebe*

# LAPIDARY HINTS

**Polishing Problems:** Many people think of polishing as comparable to shining a shoe-that is adding polish to cover up scratches. Actually, each grit used on a stone leaves scratches in the surface of the stone. So, when you go to a finer grit, it's purpose is to remove all the scratches from the last grit. An estimate of the depth of scratches left on the stone by each grit is: 80 grit - 2.6 mm, 180 grit - 0.86 mm, 200 grit - 0.6 mm 325 grit - 0.3 mm, 600 grit - 0.16 mm, 1200 grit - 0.07 mm, 3000 grit - 0.03 mm With reflected light, the unaided eye can see imperfections far smaller than 0.03 mm. On a cabochon, small grit scratches are hidden by surface imperfections and the stone looks shiny.

*(from: AFMS Newsletter - April 1998, The Ammonite-FEBRUARY, 2014 BY Western Dakota Gem and Mineral Society)*

**Calculating Flat Lap Weights:** When polishing slabs on a vibratory flat lap it is necessary to add weight on top of each piece. One method that can be used is to weigh out the proper weight of lead shot in a Ziploc plastic bag. The correct weight can be calculated:

Weight on slab (lbs) = Area of slab in square inches (lxw) x 0.5 – weight of slab

OR Rule of Thumb: Weight on slab (lbs) = 0.5 lb / square inch of slab

*(from Lynn Neale & Linna Beebe-Shoshone Rock Club-Powell, WY)*

## **Making an Inexpensive Heavy-Duty Diamond Grinder:**

<http://silverandstone.wordpress.com/>

**-Use Leather to Polish** by stretching its rough side over the rubber buffing head and attaching on the backside with wire. Do not cement leather to the head!

**-Use Baking Soda to Clean Stones** in your tumbler at the end of the last cycle or to remove oil from slabs cut with a rock saw.

**-Use a Heat Gun with Wax** to mount gemstones on dop sticks.

**-Soaking Stones in Bleach** may improve their color but after bleaching is completed they must be neutralized with baking soda.

**-Polish Obsidian** at low speed (600 rpm) on leather with cerium oxide using moderate pressure, but do not overheat.

**-Use Diatomaceous Earth to Polish Opal.** Apply a wet slurry on medium hard felt at 300-500 rpm.

*(Preceding hints from "Lapidaries Take the Floor" by June Culp Zeitner-July 1998 Lapidary Journal)*

**Cleaning Quartz with Vinegar:** One way to clean quartz and amethyst crystal that does not involve dangerous acids is to cover them with fresh vinegar and remove the carbonates such as calcite, barite, and lime, allowing the crystals to stand overnight in the vinegar. Repeat if necessary. Wash well, and then place the crystal in washing ammonia for 8 to 12 hours. Remove, rinse, and wipe.

*Editor's Note: This tip will help clean lime from any agate or coral found in the Black Hills.*

*(From Oregon Rockhound Bulletin 1/11, The Ammonite-FEBRUARY, 2014 BY Western Dakota Gem and Mineral Society)*

## ADVERTISEMENT

### **NEW Treasure Shell & Gem Scoop** <http://www.geo-tools.com/barpick.htm>

Now Available! Estwing stopped making the shell and gem scoop in 2004, and they have been sorely missed by the beachcomber and rockhound communities ever since. This Treasure scoop is made to the same specifications as the traditional Estwing Shell and Gem Scoop which makes rockhounding a pleasure. Save your back & avoid snakes! Incredibly strong, made of a strong rust proof, featherweight all-aluminum alloy, weighs only 1 pound and over-all length measures 37", with an easy to see red-orange non-slip nylon vinyl grip that is molded on - can't come off or wear out.

The Gem and Treasure Scoop is an ideal tool for all beachcombers and serious rockhounds. This makes a great grabber or pick-up-sticks for that extended reach with minimal bending and stretching, a great aid for seniors with arthritis. Handy for that long reach to retrieve a treasure in the surf before a wave comes at you to snatch it away. Excellent as a walking stick for mountaineering, or as a garden tool (NOT to be used as a pry bar, hammer, pick or shovel) could possibly even support up to 350 lbs, with pointed spur to climb up or down, and slotted scoop edge to sift, rake or pick-up. For beach-combers to help prevent you from slipping on mossy rocks while tide pooling, useful for clam digging, etc. Great gift idea!

On Sale and Available in 37" for \$37.95 and 42" for \$42.95.

*(As featured in Rocky Mountain Federation of Mineralogical Societies Newsletter-November 2013)*

**Available locally through Stone Age Industries in Powell 888-331-7625**

**or**

**[www.stoneageindustries.com](http://www.stoneageindustries.com) (Linna Beebe)**

**A** guy took his girl friend to her first Longhorn football game. They had great seats right behind their team's bench. After the game, he asked her how she liked the experience. "Oh, I really liked it," she replied,

"Especially the tight pants and all the big muscles, but I just couldn't understand why they were killing each other over 25 cents."

Dumbfounded, her date asked, "What do you mean?"

"Well, I saw them flip a coin and one team got it and then for the rest of the game, all they kept screaming was: get the quarterback. Get the quarterback! It's only 25 cents

**By Amanda from Lubbock TX USA**

Courtesy [aJokeADay.com](http://aJokeADay.com)



## An Opportunity to be Recognized

### Attention all club members and officers

I am looking for more information; field trip schedules, photos and articles of interest to post in the Club News section of the newsletter. Please send your material to: [publicity@wymineralandgemsociety.org](mailto:publicity@wymineralandgemsociety.org)

When sending your articles, if you have photos or photos embedded in an article, please send a copy of the original photo so that I can have a good image to work with. If you have questions, feel free to call me on my phone 336-403-3123, or 307-578-7091

This is your newsletter, I am here to make all the pieces fit. I would like to thank all of the contributors who have provided newsworthy material throughout the past year and a half which has made our newsletter a success.

Your Editor

*Verne*



**Jade State News**

**P.O. Box 697**

**Cody, WY 82414**

<http://www.wymineralandgemsociety.org>