

Jade State News

Wyoming State Mineral & Gem Society, Inc.

Award-Winning WSMGS Website: wsmgs.org

Volume 2021, Issue # 2



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The WSMGS conducts meetings quarterly and as special events require.

Three for the Show

Attendees at the 2021 Sublette County Mineral and Gem Show in Marbleton, Wyoming, got a three-for-one deal in June. Besides their own annual rock show, the Sublette County Rock Hounds hosted the 2021 conventions for the American Federation of Mineralogical and Gem Societies and the Rocky Mountain Federation of Mineralogical and Gem Societies.



Arvid Aase, Fossil Butte National Monument curator, walks around the Sublette County Fair exhibit hall inside a replica of a giant prehistoric fossil fish. JSN photo by Linda DiGiro
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Sublette County Rock Show

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Vendor Kathy Carlson of Rigby, Idaho.



Arvid Aase, Fossil Butte National Monument curator.



Obsidian knives by knapper Bill Lehr



Bob Stewart demonstrates how he pops open hollow geodes.

JSN photos by
Ilene Olson,
Jim Gray,
Linda DiGiro and
Tina Shaffer.



Tom and Patti Patterson, winners of the Amethyst Cathedral grand door prize.

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Sublette County Rock Show — Displays

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First-place and People's Choice showcase,
Riverton Mineral and Gem Society



Second-place showcase, Sublette County Rockhounds



Third-place showcase, Shoshone Rock Club



Will Guthrie showcase



Natrona County Rockhounds' showcase



Natrona County Rockhounds Showcase 2

Many artfully designed showcases by individuals and rock clubs were on display at the rock show in Marbleton, Wyoming. Most showcases centered around the show's theme, "Rocking Wyoming's Rocks." JSN photos by Linda DiGiro.

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Sublette County Rock Hounds Set the Show Stage



Sublette County Rock Hound Club show photos from 2019-2020

By Antoinette Rahn
Rock & Gem magazine, June 3, 2021
Reprinted with permission

The Sublette County Rock Hounds group is a relative newcomer when it comes to the world of formal rockhound organizations, but its short existence hasn't limited its successful progress and innovation.

The group, which formed in 2016, came about, explained Club President and Show Chairman Jim Gray, after the Wyoming State Mineral & Gem Society "persisted over a span of 10 years," asking Gray to start a club in Sublette County. It may have been one of the best decisions he's made for his enjoyment of rockhounding and that of his neighbors in Sublette County.

Since forming, the club has held a show every year and hosts field trips, features lectures on a wide range of topics, and is currently working to develop a junior program using the American Federation of Mineralogical Societies' (AFMS) junior rockhound program guidelines, Gray explained. Presently, club membership tops 220, and 20% of the members are under the age of 18. What an exciting time for this club!

In addition to the exciting programming and expansion of its club culture, the Sublette County Rock Hounds [served] as host to both the Rocky Mountain Federation of Mineralogical Societies and AFMS 2021 conventions during the club's show June 18-20, 2021.

"The Sublette County Rockhounds are honored to host these conventions. We hosted the RMFMS convention in 2020, and it was very successful," Gray said. "We feel privileged to welcome the AFMS and believe it to be a huge accomplishment for a fairly new club located in a rural area to be asked to host their convention! We appreciate everything the RMFMS and AFMS have to offer to the individual clubs, such as educational information and technical support."

The club's show [delivered] excitement, fun, learning, and an array of knowledgeable people (vendors, society leaders, local club members) to answer questions and share knowledge. Plus, the group [worked] hard to provide a safe and sanitized setting for people of all ages to come and explore the wonder of rocks, minerals, gems, fossils, and lapidary arts.

Looking back on the relatively short but successful history of the Sublette County Rock Hounds group, Gray described a group of people committed to encouraging one another in their pursuits of knowledge and experiences — not to mention a group that is eager to share the love of rockhounding and lapidary art with anyone who expresses an interest. When asked for four words to describe the spirit of the club, Gray said, "dedicated, friendly, willing, and grateful," which all sound like key ingredients in forming a club that has an impact larger than the sum of its parts and a legacy that is just taking shape.

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Wyoming Rockstars

**By Stan Strike
Cody 59ers**

Ken Steele, Mark Fisher and Debbie Steele are being recognized as WYOMING ROCKSTARS because of their educational contributions that allow rock hounds to share their knowledge of Wyoming's geology.

The website—www.geowyo.com—was developed by these three individuals and was featured in the February (Volume 2020, Issue #1) Jade State Newsletter article: "Geological Wonders of Wyoming".

The authors did an excellent job of including educational photos, charts, and explanations for the geological features within selected counties of Wyoming. Individuals are invited to utilize this website to travel Wyoming and learn about its Geological Wonders.

In addition to the development of the above website, they have shared their geological knowledge as guest speakers and resource persons for Wyoming rock clubs and donated their time to serve as judges to determine the 2020 WY State Rock Hound of the Year.

The following biographies for these Wyoming Rockstars were copied from their www.geo.wyo.com website and reinforce their lifelong commitment to sharing their geological education and knowledge.

Ken Steele living in The Growing up as required frequent him to diverse interest in geology early extensive American West.



Ken Steele

– Ken is a geologist living in The Woodlands, TX. Growing up as an "Air Force brat" moves that exposed landscapes. His interest in geology was fueled by his early exploration of the American West.

He holds bachelor's degrees in government and Earth Science from Montana State University and a master's in geology from the University of Wyoming.

His three-decade career in the petroleum business provided the opportunity to study the earth's history as recorded by rocks through deep time.

Eighteen years working and living in Wyoming sparked an enchantment with the geology and history of that rectangular state. Ken also enjoys reading, writing, opera, hockey, and hanging out with his dog (who is indifferent

to opera).

Mark P Fisher – Mark is a geologist living in Cody, Wyoming. He first became interested in geology as a kid growing up and collecting the impressive variety of Ordovician marine fossils found in the Cincinnati area.

He received education at Cincinnati with a specialty in stratigraphy. work in 1980 at same day in



Mark Fisher

Most of Mark's 34 years in the oil and gas exploration and development business was in the Rockies with an emphasis on Wyoming and the Big Horn Basin. Mark transferred eight times, but always returned when possible to Cody, where he has lived four separate times.

He loves dancing, family, friends, outdoor activities, geology and living in Cody.

Debbie Steele is a geologist living in The Woodlands, TX. Her interest in geology was sparked in early childhood by her mother, who showed her rounded pebbles in the woods and explained that streams used to flow there. Her mother also helped her collect Miocene fossil shark's teeth at the beach in Maryland.

She got her bachelor's in geology at Duke University and her master's degree in geology, specializing in paleoecology, at Vanderbilt University. Debbie started work at Marathon Oil in Casper WY in 1980, two weeks after Ken and Mark.



Debbie Steele

Debbie's 23 years in the petroleum industry included Rocky Mountain exploration and laboratory analysis of the physical properties of core samples. In addition, she worked 10 years for the Buffalo Bill Historical Center in Cody, Wyoming, helping design the Draper Museum of Natural History.

She enjoys cooking, reading, embroidering, gardening and editing GeoWyo articles.

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World's Biggest Landslide Formed Heart Mountain

By Stan Strike
Cody 59ers

Heart Mountain, located between Cody and Powell, Wyoming, is incorrectly called an upside down mountain even though its upper layers are made up of older Paleozoic Era/Mississippian Period/Madison-Three Forks Jefferson Formations that are on top of the younger Cenozoic Era/Tertiary Period/Willwood Formation. Geologists now believe that the older rock was the result of a detachment fault that was separated and moved from an area near Cooke City, Montana. As This large section of rock (about 450 square miles and almost 5,000 feet thick, weighing trillions of tons). moved down a 2-degree slope and over Dead Indian Hill breaking apart as it slid. These pieces of the original Cooke City Paleozoic aged rock were deposited in widely separated areas on top of the Cenozoic aged Willwood Formation that filled the Bighorn Basin. The block broke up into at least 50 large fragments and spread over an area greater than 3,500 square kilometers. The limestone/dolostone carbonate rocks are about 1,650 feet (500 m) thick, but geologists believe the rocks were 2-4 kilometers thick during the slide and were later eroded.

Over geologic time these separated blocks of harder rocks acted as caprocks protecting the softer rock underneath from being weathered



Heart Mountain, Wyoming, as seen from the Chief Joseph Scenic Highway (Wyoming Highway 296) north of Cody, Wyoming. Photo courtesy of Mark Fisher

and eroded. The result was higher caprock representing mountains in the area: such as Heart, Sheep, Logan, Tatman, and McCullough.

The Heart Mountain Detachment Fault has been identified and studied by geologists over many years. It is the result of the Absaroka volcanics with its associated earthquakes that created the detachment fault separation about 50 million years ago. However, the movement could not be explained with the way faulted rocks normally moved.

Usually faults with this much movement would have a thick layer of rocks that are "metamorphosized," or changed, often tens of meters thick,

but the Heart Mountain detachment fault zone is merely a couple millimeters wide in most places. For movement to take place, a fault zone this thin would require that friction be very low, much less than is normally the case.

The latest explanation by some geologists is that this movement associated with the Heart Mountain Detachment fault-block occurred very rapidly. Imagine a landslide as big as Rhode Island speeding toward you as fast as an Indianapolis 500 sprint car. The massive Heart Mountain landslide in Wyoming is thought to have raced to its final resting place on a

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Heart Mountain Landslide

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cushion of carbon dioxide gas, similar to a hovercraft gliding on air, a new study suggests.

"Even I have a hard time visualizing a mountain moving 50 kilometers [31 miles], but you can move it if the friction is low enough," said lead study author Tom Mitchell, a geophysicist at University College London in the United Kingdom. [Natural Disasters: Top 10 US Threats]

The Heart Mountain landslide is the largest landslide ever found on Earth's surface (larger landslides exist in the ocean). Many scientists think the slide was triggered by a violent volcanic eruption in Wyoming's Absaroka volcanic field 48.8 million years ago. The blast launched a 31-mile-long ridge of Madison Limestone toward the southeast. The slab broke up as it traveled; now, more than 100 huge limestone blocks are scattered across some 1,310 square miles (3,400 square kilometers) of younger rocks in northwestern Wyoming and southeastern Montana.

Geologists noted the unusual arrangement of rocks (older rocks on top of younger rocks) more than 100 years ago, but have yet to agree on how the landslide glided across the landscape. These strange observations have fueled one of Heart Mountain's greatest mysteries: how the landslide crossed more than 28 miles (45 km) along a surface tilted at an angle of less than 2 degrees. (A typical landslide slope angles at 45 degrees or higher, Mitchell said.) Evidence from some studies suggests the slide covered this distance in only 3 minutes, racing at a third of the speed of sound. But other studies have ar-

gued that the blocks gradually shifted into place over the course of a million years. Other popular ideas have included earthquakes, volcanic fluids or the slow tug of gravity.

Now, laboratory experiments on limestone and dolostone rocks from the landslide seem to support the idea that the landslide slid catastrophically fast. In the tests, conducted at INGV Rome's specialized laboratory, Mitchell and his colleagues ground together limestone and dolostone at high pressures and speeds to mimic the landslide. Almost as soon as the experimental landslide started, the rocks started to break down and release carbon dioxide gas.

"You can produce these gases early on, at the very early stages of landslide slip," Mitchell told Live Science. The gas cushion, trapped between the landslide block and rocks underneath, could have lifted the heavy limestone and reduced friction to nearly zero, according to the study, published online Dec. 23, 2014, in the journal *Earth and Planetary Science Letters*. "It's almost like it's weightless," Mitchell said.

The experimental setup limited the researchers to testing the effects of about 0.6 miles (1 km) thickness of rock, but the Heart Mountain landslide carried a wall of rock that was 1.2 to 2.5 miles (2 to 4 km) thick. Mitchell said the thicker rock would likely result in even more extreme conditions. "The size of the mountain doesn't matter," he said. "This thin cushion of gas is all you need at high speeds."

Tiny bubbles and other structures in the experimentally sheared rocks also matched those seen in the real-world landslide rocks at the layer that marks

the contact between the landslide and the rocks underneath, the researchers reported. These matches indicate to the researchers that the natural structures could have been produced by gas escaping during the landslide.

"It's fabulous science," said John Craddock, an expert on the Heart Mountain landslide who was not involved in the study. "All of a sudden, you have experimental evidence that even with really tiny displacements, you do generate a gas," said Craddock, a structural geologist at Macalester College in St. Paul, Minnesota. "It validates the hovercraft idea."

Craddock thinks the amount of carbon dioxide gas released by the landslide would have left a signal in the rock record, and he has been searching for the evidence. "We haven't found anything yet, but it's got to be a lot," he said.

Adapted References:

1. "Heart Mountain," By Becky Os-kin, *Live Science*, Jan. 21, 2015. www.livescience.com/49504heart-mountain-landslide-air-cushion.html?fbclid=IwAR3YFTpRsK-nXAC-sOZF94_OTIUBR5jUIx-l1CVW_3IKuBLIGwt8ym5gsetk
2. www.geowyo.com/heart-mountain.html
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4. <https://creation.com/the-heart-mountain-catastrophic-slide>

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How to Polish Apache Tears

Adapted from Rock & Gem Weekly Review

by By Toni Rahn, May 6, 2021

(Original article from Rock & Gem archive by Lee Wallace)



Many years ago, in what is now our Western States, there were violent upheavals within the earth. Magma boiled and seethed below the surface and, in some areas, forced its way upward to spill out of volcanoes and fissures. Any of the liquid magma that reached the surface is called lava, and lava that cooled so quickly that it did not have time to crystalize is called "obsidian," or volcanic glass.

In weathering, especially where water got into cracks or crevices, this natural glass contracted and fractured into curved scales, much like the layers in pearls. This new rock, called "perlite," erodes away, leaving rounded black nodules of the original obsidian — Apache Tears — to become a joy or plague to the rockhound who tries to polish them in a tumbler. The proper name for these stones is merkanite, but they frequently are called other even less-attractive names before they are successfully polished.

Characteristics of Apache Tears

Left in place, all of the obsidian in

any deposit would slowly weather into perlite. So, relatively speaking, there is no old obsidian, although it may age the rockhound who works with it. This does not imply that the polished Apache Tear, worn on a necklace, will crumble and fall on the toes of the wearer. Obsidian, like any glass, just is not stable. However, the process of breakdown takes many, many years, so you will be safe wearing them. Most people who are unacquainted with Apache Tears are amazed to learn that light can be viewed through them. This is not due to the minerals involved as much as it is the structure. Obsidian is actually the non-crystalline equivalent of granite, which in turn is the coarse-grained equivalent of rhyolite. The chemical and mineral compositions are the same.

Steps for Tumbling Apache Tears

Keep in mind that you are handling glass, with a Mohs hardness of about 5½. Do not attempt to tumble it with anything harder, except in the first rough grind to smooth edges.

Here are the steps we followed:

1. Place Apache Tears of various dimensions with other agates, a half-to-half ratio, with one pound of 90 grit to 10 pounds of rock, in the tumbler barrel. Water is added, and this tumbled for a month.

2. The stones are washed, and Apache Tears are separated from the agate. The Tears are then tumbled for two weeks with one pound of 220 grit for each 10 pounds of Tears. Add about a cup and a half of leather bits, and water to full.

3. Again the Apache Tears are washed and separated from leather

bits. Tumble for two more weeks with one pound of 600 grit to 10 pounds of Tears. Add about a cup and a half of clean leather bits, and water to full.

4. Switch to a vibrating tumbler. Wash the Apache Tears and remove leather. Place Tears in a four-pound hopper with one tablespoon of Tripoli and about a half to three-fourths of a cup of clean leather bits, and enough water to make a gravy-like slurry.

**At this point, you may be asking how to put 10 pounds of Apache Tears in a four-pound hopper — but a box will hold the excess to process later.

5. Wash the Tears again, remove the leather bits, and tumble for one week more with one tablespoon of cerium oxide with one-half to three-fourths cup of clean leather bits, again adding water to make a gravy-like slurry.

6. Wash the Tears another time, remove the bits, and tumble for about two hours with one-half cup of clean leather bits, and about a half-tablespoon of detergent.

The results are highly polished, glassy Apache Tears.



JSN photo by Ilene Olson

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The Geology of Hot Springs State Park

A publication of the Wyoming State Geological Survey

INTRODUCTION

Hot Springs State Park, located just outside the town of Thermopolis, is host to world- famous mineral hot springs. Water from the towering Owl Creek Mountains south of the park travels deep within the ground, where it is heated by geothermal energy before returning to Earth's surface. This geologic voyage creates the natural warm springs and beautiful travertine deposits that form the extraordinary

terraces along the Bighorn River and other features visible in and around the park.

Four miles south of Thermopolis, U.S. Highway 20 enters the northern end of Wind River Canyon, which cuts through the Owl Creek Mountains. Here, billions of years of Earth's geologic history, including the geologic formations mentioned in this pamphlet, can be safely observed from regular highway turnouts.



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Geology of Hot Springs State Park

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Triassic “red beds” like those seen throughout the park.

GEOLOGIC HISTORY

The geologic event that led to the eventual formation of the park’s physical features occurred between 70 million and 35 million years ago. This significant mountain-building episode, known as the Laramide orogeny, exerted compressional forces forming large faults and arch-shaped folds called anticlines. Steeply tilted, younger, sedimentary rocks are exposed on the flanks of these anticlines; older Precambrian rocks commonly make up the center of the anticlines.

The nearby Owl Creek Mountains are an example of such anticlines. The smaller Thermopolis Anticline runs through the park and town, exposing Triassic “red bed”

rock layers throughout the park, particularly on the east side.

HYDROGEOLOGY

Water, originally rainfall and snowmelt, infiltrates porous and fractured sedimentary rocks on the northern side of the mountains.

Driven by gravity, the groundwater flows down-gradient through these important regional aquifers northward into the Bighorn Basin. The groundwater flows around the Thermopolis Anticline where it reaches a maximum depth of almost 7,000 feet. There, it is warmed

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Geology of Hot Springs State Park

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Teepee Fountain, a fabricated travertine feature, was formed by piping heated groundwater to the surface. The original well was installed in 1906, demonstrating how quickly substantial travertine deposits can form.

geothermally (by the earth's heat) to temperatures that exceed 1600F, dissolving minerals in the host rock as it flows. On the north side of the anticline, the mineral-rich groundwater flows upward under artesian (natural) pressure through vertical fractures in overlying rocks, discharging at Hot Springs State Park and other springs in the area. As it travels to the surface, the heated water mixes with groundwater in the overlying formations, cooling to about 1300F.

The spring water cools as it flows over the ground surface, and minerals dissolved in the hot water precipitate out to form a type of limestone called travertine. Over

time, the travertine builds up, forming the massive terraces that tower more than 30 feet above the Bighorn River. The various colors observed in the travertine terraces result from mineral interactions with different species of algae that thrive in the warm spring flow.

The location and rate of discharge of the hot springs have varied greatly over time. Old travertine deposits scattered along the crest of the Thermopolis Anticline show that the hot springs have moved over millions of years. These old deposits are the white rocks seen at the top of Monument Hill to the east and on T Hill to the west.

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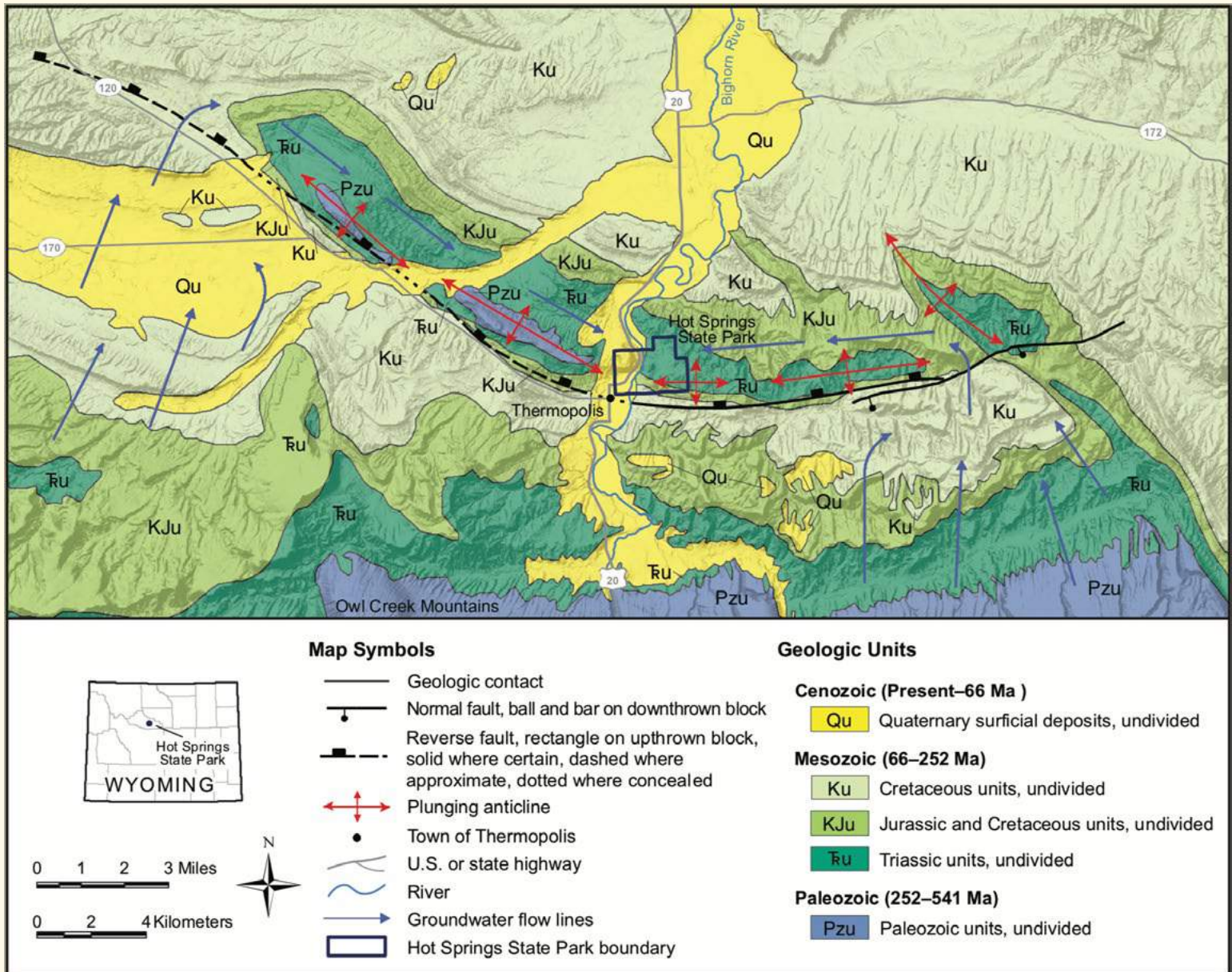
Geology of Hot Springs State Park

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Big Spring and White Sulphur Spring are the only two active springs in the park currently. In the last 40 years, Bathtub, Black Sulphur, Railroad, Terrace, and Piling springs have stopped flowing. Teepee Fountain, a man-

made feature in the park, was originally fed by the Teepee Fountain Well.

When flow ceased from that well, water was redirected from Big Spring to keep thermal water flowing.

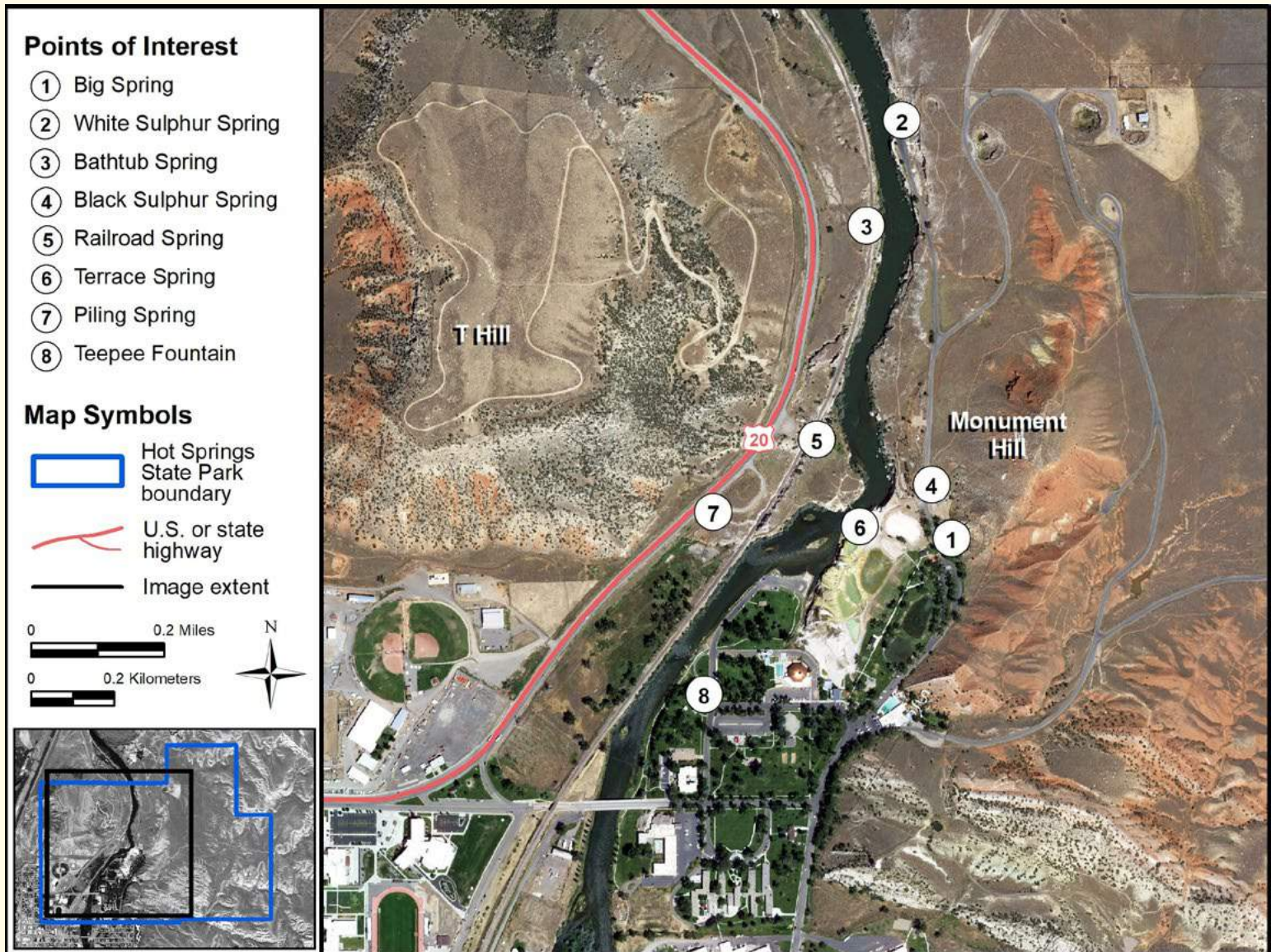


Bedrock and surficial geologic map of the region surrounding Hot Springs State Park. Groundwater (blue arrows) flows from the Owl Creek Mountains northward to the park.

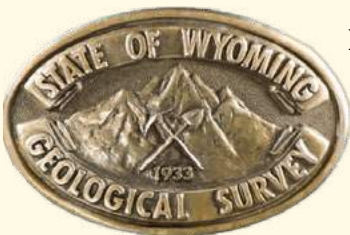
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Geology of Hot Springs State Park

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Aerial view of Hot Springs State Park with named hot springs shown.



For more information, visit: wyoparks.state.wy.us/index.php/places-to-go/hot-springs

Wyoming State Geological Survey • P.O. Box 1347 Laramie, WY 82073-1347

www.wsgs.wyo.gov • phone: (307) 766-2286 • email: wsgs-info@wyo.gov

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WSMGS Electronic Board Meeting

March 2021

I. Electronic Meeting Instructions to Board Members:

As a WSMGS Board Member, I ask you to read this Electronic Meeting email and VOTE on all Action Items by selecting "Reply All" after typing your name and indicating a "Agree or Disagree" vote for each numbered Action Item. The Deadline for your responses by "Reply All" email will be Monday, March 29. If you have questions about any item call, text, or email me at 307-260-6442 or pres@wsmsg.org Board members are encouraged to submit old or new business items that have not been included in this meeting and a special attachment will be sent out for the entire WSMGS Board's consideration.

II. President's Report by Jim Gray:

WSMGS 2021 Annual Show will be hosted by Natrona County Rock Hounds in Casper, July 9 10, 11, 2021. All Clubs are encouraged to assist, please contact Jim Gray to commit to volunteer during the Show. Please donate items for the WSMGS show table to sell. Will be asking for club donations for items to sale on the table.

All the clubs have paid their annual dues to the WSMGS, except Gillette. I will get with them soon.

Section 4. Dues and Special Assessments. WSMGS member club dues and special assessments shall be fixed from time to time by the Board of Directors. Dues shall be payable annually to the WSMGS Treasurer by December 15th based on the total number of individual dues paying club members who are 12 years or older as of October 31st of that year. Nonpayment of dues or special assessments may result in action by the WSMGS Board of Directors.

April 1st is the due date for nominations for Club Rock Hounds of the Year, Junior Rock Hounds of the Year, and State Rock Hounds of the Year (R.O.Y. nominations). Forms can be found on the WSMGS website. Jim will send out reminders to the Clubs to encourage involvement in this opportunity to honor our members for outstanding involvement in our Clubs and hobby.

Need Clubs to please send in a list of activities, field trip pictures etc. to WSMGS Historian (Roger McMannis) and copies of meeting minutes once a month, after the meetings, or annually so they can be archived.

Any Clubs that are planning a show in 2021 please let us know so we can get the show information into the Jade State News and on the WSMGS web site.

Cheyenne Mineral & Gem Society, May 14-16, 2021

Sublette County Rock Hounds (will be hosting the AFMS & RMFMS Conventions), June 18-20, 2021

Natrona County Rock Hounds (Annual WSMGS Show), July 9-11, 2021

AFMS is currently updating the junior rock hound and badge program to make it more user-friendly and to be useful with 4-H groups. If you or your Clubs have not looked at the existing AFMS junior program I strongly encourage you to do so. The manual contains information that could be easily used during Club meetings and field trips with junior and adult members.

The ALAA (American Lands Access Association) has selected me to be the Wyoming Director to assist in collecting information about areas in Wyoming at risk of having public access restricted and to disseminate information about access to interested parties. Please let me know of any information about public access issues you hear about so we can all work together to protect our multi-use of public lands in America.

If any Club has any questions, concerns, or needs please let me know and I will do my best to help.

III. Vice President's Report by Linda Richendifer:

WSMGS affiliated rock clubs have submitted their Annual Election of Officers Reports and the 2021 WSMGS Directory has been updated and emailed.

IV. Secretary's Report By Leane Gray:

Prior Electronic WSMGS Board Meeting Minutes are printed in the Jade State News, which are available online: wsmsg.org under the heading Newsletters.

V. Treasurer's Report by Stan Strike:

WSMGS Club Report Reminders

January 1st to May 15th- Form 990N must be electronically submitted to the IRS (The Registered agent for each club should receive this form from the IRS in advance of the deadline). Clubs may contact the IRS directly by email: la2.alt.www4.irs.gov/pub/rup_login_1.

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WSMGS Electronic Board Meeting, March 2021 (Continued from Page 14)

Deadline for Annual Report to WY Sec. of State Varies by WSMGS Club -- Deadline for renewal of "Non Profit Corporation Annual Report" varies by club and is due the 1st day of the month in which the club was first recognized by the Wyoming Secretary of State as a Non Profit Corporation.

(The Registered Agent for your club should receive this form in advance of the club's deadline

WSMGS Clubs' Incorporation Dates:

Cheyenne Mineral & Gem Society	Dec. 2, 1969
Cody 59ers Rock Club	February 1, 2012
Natrona County Rock Hounds	April 15, 1954
Rex Young Rock Club	Not Incorporated
Northeast Wyoming	November 8, 2018
Riverton Mineral & Gem Society	August 17, 2012
Shoshone Rock Club	February 8, 1962
Sublette County Rock Hounds	March 21, 2018
WSMGS Board Incorporated	November 23, 1964

The NE Wyoming Rock Hounds have completed their annual election of officers and paid their dues in the amount of \$7.50 in March 2021; this transaction occurred after the completion of the Treasurer's Report.

The treasurer's report follows on Page 16.

VI. Historian Report by Roger McMannis:

Reminder that all WSMGS clubs need to send activities and meeting minutes or annual reports please.

Please email them to Roger McMannis: hist@wsmsg.org OR mail to him P.O. Box 1081- Big Piney, WY 83113.

VI. Jade State Newsletter by Ilene Olson:

Clubs are encouraged to submit news items, articles, abbreviated minutes, and photos for publication in the Jade State News.

Submission dates to Jade News Editor [jsn@wsmsg.org] are the 1st of February, May, August, and November.

The WSMGS would like to encourage clubs to nominate non-club members individuals/couples from your region who have been active in promoting the Earth Sciences to be recognized by receiving recognition in the Jade State News as Wyoming Rock Stars! Check out former winner write-ups on the WSMGS website: wsmsg.org-Menu-WSMGS Topic Library-WSMGS Awards. Rock Star Nominations: please submit these nominations with a descriptive paragraph and photo to the JSN. There is not an award

associated with the nominations; it is a recognition.

VII. WSMGS Website by Marlene Sibley:

The WSMGS needs Action Photos from each of your clubs. Please include the photographer's name for proper photo credit and a short caption summary as to activity. Send photos to: webmaster@wsmsg.org

VIII. Old Business:

IX. New Business:

Stan Strike has indicated he will resign as the Treasurer and Jade State News Reporter for the WSMGS at the July annual meeting in Casper. Would like to get nominations for his replacement. Would be nice to have more than one reporter and the Treasurer and reporter don't need to be the same person. Will need nominations before the meeting so his replacement can be elected, at the meeting.

I would like to remain President for another 2 year term. Please let me know if the rest of the board would like to remain in their positions.

Volunteers to help with the Natrona County Rock Hounds show July 9, 10, 11, 2021. The Show will be held at the Ramkota Hotel, Casper WY. Please notify Jim Gray.

Yearly meeting for the WSMGS will be in Casper, will get the final date/time later.

Bids for the 2022 and 2023 annual WSMGS shows?

Board and Clubs, be thinking about the Museum to be voted on in June to receive the annual WSMGS \$100 donation to promote geology, earth sciences, rock hounding.

Clubs to join the ALAA. \$50.00 per year, also individuals can join. For \$25.00 a year.

With the resignation of Stan Strike, who also served as a Jade State News reporter, now each Club needs to make a strong effort to submit news items and articles for the publication. This is very important to continue this quality newsletter representing our state!

The show theme for Natrona County Rock Hounds is Treasures of the Sweetwater Basin.

Asking all clubs to donate rock related items to the WSMGS for the State show in Casper this year. WSMGS will have their own tables to sell rock to raise money for the WSMGS account.

If anyone is interested in being the WSMGS Treasurer please notify me.

(Continued on Page 16)

WSMGS Electronic Board Meeting, March 2021 (Continued from Page 15)

+++ VOTE Action Item #1- Nomination for WSMGS Treasurer for two-year term July 2021 – summer 2023.

Voting will occur at the July meeting in Casper.

NAME of Board Member replying: Jim Gray, Linda Richendifer, Leane Gray, Stan Strike, Ilene Olson

NOMINATIONS: No nominations for WSMGS Treasurer were received by the close of this meeting.

+++VOTE Action Item #2 – Current Board Members' indication of willingness to serve in his/her current position for the next two year term 2021 – 2023. Confirmation will be at the Casper meeting.

NAME of Board Member replying: Jim Gray, Linda Richendifer, Leane Gray, Ilene Olson, Roger McMannis

AGREE OR DISAGREE to serve to next two-year term:

All agreed to serve another 2-year term.

+++VOTE Action Item #3 – WSMGS Board gives the Sublette County Rock Hounds permission to use the State Showcases during their 2021 show, June 18-20.

NAME of Board Member replying: Jim Gray, Linda Richendifer, Leane Gray, Stan Strike, Ilene Olson

AGREE OR DISAGREE to give SCRH permission to use WSMGS showcases June 2021:

All agreed to give SCRH permission to use the WSMGS showcases during their June 2021 show.

X. Meeting adjourned — Monday, March 29, 2021.

WSMGS Treasurer's Report, March 2021

ITEM	DATE WRITTEN	BANK DATE	WSMGS Cody Bank of the West	CHECK / DEPOSIT	CHECK FROM	BALANCE Beg: \$4081.94	BANK
Deposit	6/30/20	6/30/20	Jim Gray deposit	\$5.00		\$4,086.94	6/30/20
Bank Fee	6/30/20	6/30/20	Bank of West-paper statement	\$3.00		\$4,083.94	\$4,183.94
Check 116	7/7/20	7/17/20	Ilene Olson-lost #108 FebJSN	\$75.00		\$4,008.94	7/31/20
Deposit	7/31/20	7/31/20	Jim Gray deposit	\$10.00		\$4,018.94	\$4,118.94
Deposit	8/28/20	8/28/20	2020 WSMGS State Show 20% income	\$700.33		\$4,719.27	8/31/20
Check 117	9/14/20	10/14/20	Ilene Olson-August 2020 JSN	\$75.00		\$4,644.27	\$4,719.27
Bank Fee	9/30/20	9/30/20		\$10.00		\$4,634.27	9/30/20
Debit	10/2/20	10/6/20	WY Sec of State annual report	\$27.00		\$4,607.27	\$4,709.27
Deposit	10/29/20	10/29/20	Jim Gray deposit	\$5.00		\$4,612.27	10/31/20
Check 118	11/16/20	12/17/20	RMFMS-2021 dues	\$12.90		\$4,599.37	\$4,612.27
Deposit	11/27/20	11/27/20	Sublette 2021 dues deposit	\$276.00	Sublette County	\$4,875.37	
Deposit		11/30/20	Cheyenne 2021 dues	\$120.00	Cheyenne M&GS	\$4,995.37	
Deposit	11/17/20	11/30/20	Rex Young 2021 dues	\$21.00	Rex Young RC	\$5,016.87	
Deposit	11/10/20	11/30/20	Shoshone 2021 dues	\$52.00	Shoshone RC	\$5,068.87	11/30/20
Check 119	11/30/20	12/4/20	The Ivy (Marlene Sibley gift card)	\$50.00		\$5,018.87	\$5081/77
Deposit	12/1/20	12/14/20	Cody 2021 dues	\$85.50	Cody 59ers	\$5,104.87	
Deposit	12/8/20	12/14/20	Natrona County RH	\$70.50	Natrona Co. RH	\$5,174.87	
Check 120	12/21/20	1/5/21	Ilene Olson November JSN	\$75.00		\$5,099.87	12/31/20
Deposit	12/8/20	12/18/20	Jim Gray deposit	\$5.00		\$5,104.87	\$5,299.87
Deposit	12/16/20	12/23/20	Riverton MGS 2021 dues	\$120.00	Riverton MGS	\$5,224.87	1/31/21
Deposit	1/11/21	1/11/21	Jim Gray deposit	\$5.00		\$5,229.87	\$5,299.87

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Club News



Cody 59ers

The Cody 59ers Rock Club met on March 25, 2021. New members Stephanie and Emma Melbraaten were welcomed to their first meeting, and Rodney and Julie Laib renewed their membership.

Guest speaker Jaime Lindeman presented his story of searching for and discovering the mineral variscite in the Cody area. Variscite is an aluminum phosphate material that is used to make jewelry, and ranges in color from gray to green to brown.

Jaime searched for three years without knowing exactly what he was meant to find. He now has a mining claim on the material he found and produces beautiful jewelry and stones that he sells on Facebook Marketplace and Etsy. His Etsy store is Yellowstonegem.

Jaime was very generous to the members attending the meeting. He donated two variscite cabochons for door prizes, then gave everyone both polished and unpolished variscite. After the presentation, the members voted to give Jaime a club membership.

During their business meeting, the Cody 59ers voted unanimously to participate in the Garage-o-Rama, an annual garage sale fundraiser for the Cody Optimist Club. The May 15 event was a good way to promote the club, attract new members and reduce rock inventory.



Some of the rocks found during the Cody 59ers' field trip to Kane, Wyoming, in April. More photos on Page 18.

In April, club member Stan Strike gave a presentation, "Intro to Geology." Stan taught Earth science in Cody schools for 27 years after moving to Wyoming from Iowa.

He gave a basic explanation of the types of rocks and the processes responsible for action on rocks. He also explained how Geomaps can be used to help rockhounds find fossils, minerals, and collectible rocks such as agates.

In the business meeting, Cody 59ers discussed upcoming rock shows. The first would be in Big Piney in June, which also would be the AFMFS and RMFMS annual conventions, and the Wyoming State Rock Show would take place in Casper in July.

The club also began planning for Labor Day weekend field trips, with Jeffrey City chosen for the location.

Cody 59ers also plan a club picnic on Sept. 10.

Stephanie Malbraaten displayed a picture frame she made with rocks she found on a club field trip. She bought the frame at a secondhand store. Everyone admired the decorated frame.

The members enjoyed refreshments and made final bids on Silent Auction items.

Audrey Smith won the door prize.



The Cody 59ers participated in the "Garage-o-Rama" community garage sale in May. Helping with the club's table are Greg Jones (left) and John Severide (right). JSN photo by Nella Flurkey

Cody 59ers

(Continued)



Members of the Cody 59ers Rock Club enjoyed a rock-hunting field trip to the Kane, Wyoming area in April.

Top left: An scenic view of Rainbow Canyon on the west side of the Big Horn Mountains.

Top right: Dahlite concretions.

Right: Interior of one of the Dahlite concretions, after it was cut in half.

Below: More than 20 club members came out to enjoy the early spring rock hunt in Kane. The weather was just right! JSN photos by Greg Jones



Northeast Wyoming Rockhounds Club

Northeast Wyoming Rockhounds Club had its first meeting of 2021 April 25.

Members discussed club memberships, officer appointments, possible field trip, volunteer leaders and rock shows. Club members are always encouraged to bring

a rock or two to show and tell with everyone.

The Northeast Wyoming Rockhounds Club promotes rockhounding an area bordered by I-25 on the south and west, and the Wyoming State line on the north and east.

Everyone is welcome!



2021 Northeast Wyoming Rockhounds Rock and Mineral Show



Saturday⁺, Sept. 11, 2021

10:00 am to 3:00 pm

Camplex Wyoming Center
Equality Hall Lobby Area

Drawings, Auctions, Giveaways

Vendor Tables available, Family Fun

Contact: Jeffrey Hulings on Messenger
Gillette, Wyoming

Riverton Mineral and Gem Society

Stan Groves, president of the Riverton Mineral and Gem Society, wrote a letter to club members on February 23.

Grove said the club's new officers met the week before to address some transitional matters and to plan for the near future.

Al Zelenak gave a treasurer's report and made some proposals for streamlining accounting. Future improvements were to include an online option for paying dues, a simplified membership application form, and reducing the number of paper receipts.

The presidency also agreed that the responsibilities of maintaining membership files, payment of dues, updating of email addresses and so on should be shouldered by a person chosen, for the task, rather than by the treasurer.

RMGS entered a rock/mineral/fossil display at the Big Piney and Casper rock shows.

Other topics discussed by the RMGS presidency were modifying the club's name-badge policy (to save expense and clutter); undertaking an inventory of the club's property, currently stored at various locations; and communicating more regularly and interactively with the state society, WSMGS.

Grove said he installed a "Central Wyoming Rocks and Minerals" exhibit in the foyer of Lander's Pioneer Museum, which was on display until early summer. He thanked Ted K., Mel G., Al Z. and two of his' students for assistance with specimens.

The Riverton Mineral and Gem Society had a general club meeting on April 12. The two main priorities at the meeting were to finalize the summer 2021 field trip schedule

and to vote on the club's hosting of the 2022 Mineral Show.

"We agreed that it would be a good thing to put in for RMGS's hosting of the 2022 show (as opposed to the 2023 show, which is currently the club's expectation), since the opportunity has newly arisen," Groves said.

The club voted affirmatively to request to host the state rock show in 2022.

Club leaders and members also finalized the field trip schedule for the spring, summer and fall. Trips were planned to:

- Copper Mountain, looking for fossils, belemnites, and invertebrates.
- Tin Cup, looking for quartz and jasper.
- Oregon Buttes, looking for stromatalite and petrified wood.
- Hudson, looking for Red Desert agate sponges.
- Tri-Territory or Big Sandy, looking for petrified wood and palm wood.
- Blue Forest, looking for petrified wood.
- Gas Hills, looking for limbcasts.
- Worland, looking for invertebrates fossils.
- Jeffrey City, looking for Jade.
- Casper, for the Wyoming State Mineral and Gem Show.
- Lucite Hills, looking for peridot.
- Cyclone Rim, looking for agates and petrified wood.
- Wiggin's Fork, looking for petrified wood.
- Lysite Mountain, looking for agate.
- Church Buttes, looking for tiger chert and various rocks.
- Sweetwater, looking for garnets.



WSMGS Rock Clubs

Riverton Mineral & Gem Society

P.O. Box 1904
Riverton, WY 82501
rivertonmgs@wsmgs.org
www.RivertonMGS.com

Meets 2nd Mon. 7 p.m.
(Jan.-May, Aug.-Nov.)
Senior Center, 303 E. Lincoln, Riverton

President: Stan Grove
Vice-President: Open
Treasurer: Al Zelnak
Secretary: Holly Skinner
JSN: Open
Historian: Open
Field Trips Ted Knowles

Cheyenne Mineral & Gem Society

P.O. Box 21412
Cheyenne, WY 82003
cheyennemgs@wsmgs.org

Meet 2nd Wed. 7 p.m. (August-May)
IBEW Union Building
810 Fremont Street-Cheyenne

President: Open
Vice President Open
Treasurer: Jan Shively
Field Trip..... Mark Shivley

Natrona County Rockhounds

P.O. Box 123,
Casper, WY 82644
natronarockhounds@wsmgs.org

Meets 1st Monday 7 p.m. (April-Dec)
Shop Open 6-8 p.m. Tue & Fri at
Clubhouse, 5211 Rambler, Mills

President: Martin "Mac" Goss
Vice-President: John Hines
Treasurer: Kenny Platte
Secretary: Martin "Mac" Goss

Cody 59ers Rock Club

P.O. Box 1251
Cody WY 82414
cody59ers@wsmgs.org
www.Cody59ers.com

Meets 4th Thursday (Sept-May) 6:30 p.m.
Park County Courthouse, EOC room,
1002 Sheridan Ave., Cody

President: Greg Jones
Vice-President: John Severeide
Treasurer: Aubrey Smith
Secretary Janet Lorher
Historian: Stan Strike
Field Trips Nella Flurkey



Sublette County Rock Hounds Club

P.O. Box 1351
Big Piney, WY 83113
subletterockhounds@wsmgs.org

Meets 1 p.m. 3rd Saturday (March-Dec)
The Bench Grill
415 Winkleman, Marbleton

President: Jim Gray
Vice-President: Mike Schaffer
Treasurer: Leane Gray
Secretary: Deb Jess

Shoshone Rock Club

P.O. Box 256,
Powell, WY 82435
shoshonerockclub@wsmgs.org

Meets 2nd Tuesday 7 p.m.
Powell Library
317 E. Third St., Powell

President: Dorine Strom
Vice-President: Mary Vogel
Treasurer: Cheryl Thomas
Secretary: Linda Thomas
JSN: Ilene Olson
Historian: Linna Beebe
Field Trips Dorine Strom

Rex Young Rock Club

112 East 3rd
Lingle, WY 82223
rexyoungrockclub@wsmgs.org

Meets 2nd Wednesday 7:00 p.m.
Senior Center
216 E. 19th Ave., Torrington

President: Kim Nielsen
Vice-President: Ed Verplancke
Treasurer: Helen Vogel
Secretary: Joyce Trowbridge
JSN: Joyce Trowbridge
Historian: Joyce Trowbridge
..... Dale Tikalski

Northeast Wyoming Rockhounds

2107C N. Hwy 14-16
Gillette WY 82716
newyrockhounds@wsmgs.org

Meets odd # months
Check email for dates

President: Jeff Hulings
Vice-President: Dennis Brown
Treasurer: Beth Raab
Secretary: Gary Haptonstall