



PICK & SHOVEL

July 2018, Volume 60, Issue 11

Editor: Sharon Marburger

2018 MEETINGS AND ACTIVITIES

General Meetings:

Regular monthly meetings are held at 7:00 p.m. at the Bethany Park Shelter House. Youth activities begin at 6:00 p.m.

No meetings in June, July, or August.

- September 20
- October 18
- November 15
- December 2 (Christmas Party)

Board Meetings:

Board Meetings, unless otherwise stated, begin at 6:30 p.m. on the first Wednesday of the month, at the home of Vera Lyman.

- September 5
- October 3
- October 31 (November meeting)
- December 5

Activities:

July 20-22, 2018:

Western Dakota Gem & Mineral Society/Rocky Mountain Federation Show in Rapid City, South Dakota. See details on pages 3 & 4.

PRESIDENT'S MESSAGE

by Jayne Beer

Greetings fellow rock friends. Welcome to HOT July! This is the time of year when it gets too hot to rock hunt, so I suggest going on the Midwest Federation website (amfed.org/mwfm) and plan a trip to a gem show. There is one just about every weekend.



Start making your plans to attend the club field trip to Rapid City, South Dakota this month. This is the Rocky Mountain Federation/Western Dakota Gem and Mineral Society Show and Convention the weekend of July 20-22. The local club has field trips planned a couple days before the show and a couple days after the show. Also, Sharon has found many other fun options for us to do together when we are there. You will find more information in this newsletter.

We did make it out to the camping trip with the club June 29th and 30th. We started out day one down on Big Sandy Creek. We met up with Wooly and Jackie at the river, but they were ready to head back to camp when we got there. So Brian, Corey, and I spent several hours walking up the river, crossing back and forth from gravel bar to gravel bar. It had flooded this spring and there were many bones and interesting finds. Friday afternoon and evening brought a few more campers. Jim and Sharon arrived and Allen and his daughter, Aasta, came out. Wooly made bison spaghetti for supper and shared with everyone. After eating, the campers went to bed and my family drove home.

On day two, we met at the shelter, then headed out to several sites along various roads to look for fossils. I will admit that it is hard to keep me interested in fossil collecting, but Corey and Brian both found some shark teeth and shell impression plates. We stopped at a favorite road cut and found some selenite crystals. An assortment of small agates, jaspers, and petrified wood were found in the road gravel; big enough to cab or tumble.

After a long, hot day of hunting, we headed back to camp and prepared veggies for hobo stew. This delicious campout meal is made by putting raw ground beef and all your favorite veggies in foil and cooking it on the campfire. Allen and Aasta contributed corn on the cob and garlic bread to the meal, and Jim and Sharon brought pulled pork

(Continued on page 2)

JULY

happy birthday!

Sharon Marburger

Susy McMahan

Charles Messenger

PRESIDENT'S MESSAGE - CONTINUED

(Continued from page 1)

and baked beans. It was all good! After supper, several of the crew went to more fossil collecting sites. I went to hang out in Jim's and Sharon's camper (nice AC!) and played the game, Aggravation, with Sharon. She beat me four games in a row, but it was fun. I always enjoy hanging out in their company. When the intrepid fossil collectors returned, my boys and I headed for home and the rest of the group went to bed. I heard in the morning that they endured storms overnight. Hopefully everyone stayed dry and safe.

Thank you, Wooly, for planning this trip and finding all the sites to collect. Donovan Harris joined us at the campsite several times and provided many identifications and places to look - a big thank you to him, also.

On Sunday, the Marburgers headed for home. Brian and Corey drove down to the Nemaha River to look for more rocks. They had a good day and came back with many good finds.

Another July field trip is planned, going to collect Eden Valley Petrified Wood with Brett Jurgens. You will have to look him up in your Who's Who and call him for more information.

At this time, there is no rock grinding party planned for July because of the field trips. If you would like to host the August party, please let Sharon or me know the date and time.

Please write an article and send pictures to Sharon for the Pick and Shovel. I don't think this club realizes how lucky we are to have Sharon to keep track of all of the information and write such a nice newsletter each month. Also, how lucky we are to have Vera to keep track of our finances. Please help to show your appreciation to both of them.

Our next club meeting is not until September 20th. Have a great month with many good finds! Happy trails to you until we meet again! CHEERS!

Photo by Jayne Beer



Silversmithing classes

**Tuesday Evenings
7:00 p.m. - 10:00 p.m.**

**The Jewelry Connection Ltd.
Indian Village Shopping Ctr.
13th & Arapahoe, Lincoln**

Tuition: \$130 plus \$30 supply deposit

Schedule for 2018

Summer Break

Session 4: Aug 14 - Oct 2 ,2018

Session 5: Oct 9 - Nov 27, 2018

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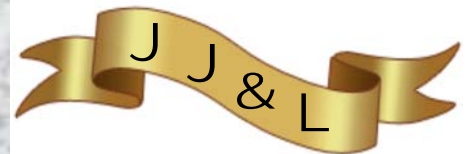
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42 years

FINAL INFORMATION ON JULY FIELD TRIP TO RAPID CITY, SOUTH DAKOTA

By Sharon Marburger

The Western Dakota Gem and Mineral Society will be hosting its 38th Annual Gem and Mineral Show in conjunction with the Rocky Mountain Federation of Mineralogical Societies' Annual Convention on July 20 through July 22, 2018. All show events will be held inside the Rushmore Plaza Civic Center Barnett Arena in Rapid City, South Dakota. Admission to the show is \$4 per day, children 12 and under are free with adult. The club is advertising presentations (speakers), special events, and children's activities, in addition to the usual show fare of dealers and demonstrators.

To view the Arena and downtown Rapid City events:
<https://www.gotmine.com/plan-your-visit/directions-parking>

Printable Badlands, Black Hills and Devil's Tower maps:
<http://blackhillsbadlands.com/maps>

Additional information is available at the Visitor's Information Center:
<http://blackhillsbadlands.com/business/black-hills-visitor-information-center>

There is a lot of information to be found at the above websites. Take a look!

FIELD TRIPS BEFORE AND AFTER THE SHOW

EDITOR'S NOTE: The following information has been updated on the host club website. Go to <http://rmfms.org/wp-content/uploads/2018-Rapid-City-Field-Trips-Revised-7-4-2018.pdf>. Please review for the most current information.

Wednesday, July 18, 2018 - Custer Area Mines

Long day of collecting at four sites. Included will be hunting for tourmaline clusters in matrix, Tee Pee Canyon agate, the Tin Mountain Mine for spodumene and apatite, and the last stop will be for rose quartz.

Monday, July 23, 2018 – Antelope Ridge

This is an easy walking area and is very accessible from the road. You will find sponge coral on this field trip. Departure time to be determined. **[This trip has been rescheduled from the 18th.]**

Thursday, July 19, 2018 – Black Hills National Forest / Hill City area

This field trip is centered around the Hill City region, in the Black Hills National Forest. It consists of two parts where each part explores distinct geological activity all within several mile radius.

The first stop will be Blackberry Trail. This is a contact metamorphic region where most of the Cambrian rock has been upthrust and metamorphosed through heat and pressure. One should expect to find pyrite, feldspar, mica schist, mica and biotite as well as some other

metamorphic materials along a stream bed. The trails are somewhat rugged. Hiking boots and jeans suggested.

The second stop will be sand caves. Aptly, no formal name for the spot, but a favorite where trilobites of Cambrian origin can be found. Several short, interconnected caves are present and some rough terrain hiking can be had. Hiking boots and jeans suggested; bring a high intensity flashlight for photography. The rally point will be the Civic Center parking lot at 8 a.m. Expect to depart by 8:30 a.m. Maps will be handed out prior to departing.

Monday, July 23, 2018– Railroad Butte/Farmingdale

Farmingdale is about 25 minutes east of Rapid City and is part of the National Grasslands recreation areas. You will be able to find prairie agates and possibly one of those elusive Fairburn agates, coral, petrified wood, chalcedony and other treasures. The area is accessible by car, but if the weather has been on the wet side, you will want to make sure that you keep your vehicle on the trails or in the gravel parking areas.

Remember to bring water for drinking and a spray bottle with sufficient water to bring out the 'color' in your finds. Sturdy shoes and jeans are also recommended. We will meet at the Civic Center at 8 a.m. and depart at 8:30 a.m. Maps will be provided at the Civic Center on the day of the field trip. If you have a smart phone and would like to download a map of the National Grasslands area, download the "Avenza" app and download the Buffalo Gap NG – Fall River Ranger District MVUM map.

Monday, July 23, 2018 – Ancient Rock of the Black Hills Core, morning; Keystone South Region, afternoon

Led by Dr. Alvis Lesenbee, professor emeritus from School of Mines. This will show some of the interesting features of the Black Hills metamorphic geology. He will also make a presentation on Friday (20th) discussing the region's geology. Bring a lunch.

Tuesday July 24, 2018 – Conata

Some of the things you will be able to find on the field trip to Conata Basin are prairie agates, petrified wood, Fairburn agates, coral and a lot of other beautiful rocks. Meeting time has not been determined. More information forthcoming.

Be safe and be kind to the land. Bring water to drink, food to eat, chairs to rest, sunscreen to not burn, tools, buckets and anything else you might need.

Continued on page 4

FINAL INFORMATION ON JULY FIELD TRIP TO RAPID CITY, SOUTH DAKOTA - CONTINUED

Other Ideas and Activities

There are several caves in the area that offer tours: Black Hills Caverns, Jewel Cave, Wind Cave, Rushmore Cave, and others. The tours range in price, but it could be a fun thing to do on a hot day, since most of the caves hold a temperature of around 50° Fahrenheit.

South Dakota School of Mines & Technology in Rapid City has a museum of geology with free admission. If you plan to visit, please note it is closed on Sundays. Also in Rapid City is Dinosaur Park.

Hill City boasts of the Black Hills Institute of Geological Research, which specializes in paleontological excavations.

Badlands National Park is a surreal place to visit. We enjoyed the different formations and colors when we visited several years ago.

Perhaps you'd rather escape to the wild west. Take a stroll down Main Street in historic Deadwood, a former mining camp that drew prospectors, outlaws, and larger than life characters, such as Calamity Jane and Wild Bill Hickok. And don't forget the Adams Museum, where artifacts and exhibits offer fascinating history lessons.

Maybe you'd rather enjoy some natural beauty and peacefulness. Spearfish, South Dakota offers birdwatching, wildlife viewing, hiking, fishing, and picnicking. A short walk leads you to a couple of beautiful waterfalls.

Something not hobby-related, but a fun thing for any train enthusiasts is the 1880 Train. It departs from both Hill City and Keystone. The ride is one hour each way. Passengers may select both their departure and return times, allowing the opportunity to get off at the first destination and stay a little while before returning to the original location. An immediate round trip allows for a 15 minute layover, so just enough time to use the restroom if needed. The 11:15 a.m. and 5:00 p.m. Keystone round trip rides allow for a one hour break, making the round trip a 3 hour ride. A return time is required at the time of purchase.

Should you decide you'd like to hit the Crawford, Nebraska area on the way home, you can also stop at the Mammoth Site at Hot Springs, South Dakota. It is an easily accessible place to visit, with an indoor working paleontological dig site and accredited museum. Entry fee ranges from \$7.37 to \$10.14, depending on age and situation.

If you have an interest in hunting around the Crawford area, please let Jim Marburger know so he can provide GPS information and maps.

[As of the date of this printing, no one has indicated an interest in attending this field trip. The Marburgers will not be able to attend due to unexpected life changes. We understand that Charles Wooldridge is planning to attend; you may direct your questions to him. This trip is a fantastic collecting opportunity; it would be a shame to miss it.]



	HILL CITY DEPARTURES					KEYSTONE DEPARTURES				
	7:30 am	10:00 am	1:15 pm	3:45 pm	6:45 pm	8:45 am	11:15 am	2:30 pm	5:00 pm	8:00 pm
17-19	RT	RT	RT	RT	RT	RT	RT	RT	RT	OW
20-21	RT	RT	RT	RT		RT	RT	RT	OW	
22	RT	RT	RT	RT		RT	RT	RT	OW	
23	RT	RT	RT	RT		RT	RT	RT	OW	
24-26	RT	RT	RT	RT	RT	RT	RT	RT	RT	OW

DAILY RUNS (One hour each way)			
RT	ROUND TRIP STEAM	RT	ROUND TRIP DIESEL
OW	ONE WAY STEAM	OW	ONE WAY DIESEL
RT	DIESEL TO HILL CITY, STEAM RETURN TO KEYSTONE		
	SHUTTLE FROM HILL CITY TO KEYSTONE FRIDAYS-MONDAYS IN JULY. AVAILABLE ONLY FOR 5:00PM OW KEYSTONE DEPARTURE PASSENGERS		

2018 RATES

	One Way	Round Trip
Adult:	\$24.00	\$29.00
Child: (ages 3-12)	\$12.00	\$14.00
Under 2: (ages 3-12)	FREE	FREE

HOST A ROCK PARTY

- ◆ Let the Board know if you would like to host August, September, or October.

Hosting a party is easy!

- ◆ Pick a date and time
- ◆ Determine what the theme or main dish will be.
- ◆ Provide plates and serviceware.
- ◆ Have room (inside or outside) to set up equipment.
- ◆ That is pretty much it! Now, get ready to have some fun fellowship with other rock, mineral, and fossil enthusiasts!

ALEXANDRIA FIELD TRIP PICTURES



Friday finds from Big Sandy Creek (photo by S. Marburger)



LGMC mountain goats hunting for fossils (photo by J. Beer)



Friday's supper - E-bear got to go on the field trip, too!
(photo by S. Marburger)



Fossil teeth found by Brian and Corey. Top left tooth is in situ on limestone; the others were found separately. (photo by S. Marburger)



Fun piece of petrified wood that Jayne found.
(photo by S. Marburger)



Road cut hunting for selenite crystals (photo by J. Beer)

COMMUNITY SERVICE: ROCK AND FOSSIL PRESENTATION

By Nancy Akins

On June 6, I presented a fun and educational Rock & Fossil show for the children, grandchildren, and residents at the Cotner Center. About seven children and more than 20 adults attended. The children enjoyed hands-on looks at fossils including megalodon and shark teeth, trilobites, coprolite (dino poop), and petrified wood. Scratch and sniff rocks (sulfur) were passed around and they all guessed what it was. There were some pretty funny answers, but fireworks or gun powder was the usual answer. Nature's only magnet (lodestone) was compared to man-made magnets. In addition, it took a joint effort to erupt the ever popular baking soda and vinegar volcano (igneous rocks). As much fun as the rocks and fossils might have been, watching the children was more fun.



The volcano. (Photo by Pat Akins, Sr.)

ANCIENT BIRD WITH BEAK AND TEETH

Excerpted from May 2, 2018 Reuters news article by Will Dunham. Submitted by Allan Gossman.

A primitive seabird that prospered about 85 million years ago along the warm, shallow inland sea that once split North America boasted what scientists are calling a surprising blend of traits from its dinosaur ancestors and modern avian characteristics.

Four new fossils of Ichthyornis, which had both a beak and teeth and lived a lifestyle like modern gulls, offer striking evidence of this Cretaceous Period bird's important position in avian evolutionary history.

Ichthyornis fossils were first unearthed in the 1870s, but the new finds from Kansas and Alabama chalk deposits reveal far more than was previously known. Ichthyornis was the size of a tern, with a two-foot (60-cm) wingspan, and probably ate fish and shellfish.

Birds evolved from small feathered dinosaurs. It appears Ichthyornis was a strong flier, its body streamlined, simplified and adapted for flight like modern birds. Despite its birdlike body and wings, it had almost a full set of dinosaurian teeth and strong jaw muscles. Its sharp teeth probably would have assisted in holding onto slippery marine prey, while the incipient beak at the tips of its jaws probably would have allowed it to manipulate objects with fine dexterity and preen its feathers.



Artist's impression of Ichthyornis. Drawing signed by Michael Hanson.

GOLDEN EARTHQUAKES?

Excerpted from article in Geologyin.com. Submitted by Martin Dougherty

Pressure changes cause precious metal to deposit each time the crust moves. It is common knowledge that veins of gold are formed by mineral deposition from hot fluids flowing through cracks deep in Earth's crust. But a study published in Nature Geoscience¹ has found that the process can occur almost instantaneously during an earthquake.

The process takes place along 'fault jogs', sideways zigzag cracks that connect the main fault lines in rock. When an earthquake hits, the sides of the main fault lines slip along the direction of the fault, rubbing against each other, but the fault jogs simply open up.

When mineral-laden water at around 390°C is subjected to a radical pressure drop, the liquid rapidly vaporizes and the minerals in the now-supersaturated water crystallize almost instantly, a process that engineers call flash vaporization or flash deposition. The effect is sufficiently large that quartz and any of its associated minerals and metals will fall out of solution. Eventually, more fluid percolates out of the surrounding rocks into the gap, restoring the initial pressure. Because of the time lag, a single earthquake can produce an instant (albeit tiny) gold vein.

Perhaps prospectors will be able to use remote sensing techniques to find new gold deposits in deeply buried rocks in which fault jogs are common.

A seismologist at UC Berkeley believes that this finding could assist in a study to predict future earthquakes and aftershocks.

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All members are encouraged to submit features, articles, poetry, or drawings.

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ADVERTISING, SUBSCRIPTION, AND MEMBERSHIP INFORMATION

Advertising by rock / hobby business or interest is permitted with the approval of the Board of Directors. Contact the Editor with your proposed ad. The rate is set at \$20.00 per full page; \$10.00 per 1/2 page; \$5.00 per 1/4 page (minimum) per issue, paid in advance to the Club treasurer. Ads will be placed throughout the newsletter as space permits.

Subscription to the Pick & Shovel is \$20.00 per year for mailed copy.

Membership dues for the Lincoln Gem & Mineral Club are as follows:

- Adults (age 16 and over) - \$20 per year or \$30 per couple (within the same household)
- Juniors - \$3 per year (with a responsible adult)

All new memberships must be accompanied by a written application. Prospective members must gain Board approval and attend one regular meeting before being approved for membership. Applications are available on the website: <https://www.lincolngemmineralclub.org/about/membership>.

Mail Exchange Newsletters to:

Lincoln Gem & Mineral Club, Inc.
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Or e-mail newsletters to:
lgmc.editor@outlook.com



A color version of the Pick & Shovel is available at:
<http://www.lincolngemmineralclub.org/index.php/newsletters/current>

PICK & SHOVEL

The *Pick & Shovel* is the official publication of the Lincoln Gem & Mineral Club, Inc., Lincoln, Nebraska. Articles and items appearing within may be reproduced in other club bulletins, provided proper credit is given to the *Pick & Shovel* and the author.



All articles, tidbits, and photos not individually identified as being contributed to this publication are provided by the Editor.



This Editor is
a member of
Special Congress
Representing Involved
Bulletin Editors

It's time to start planning!
LGMC's 61st Annual Show
Nebraska's Hidden Treasures
April 6-7, 2019
Mark your calendars!

The purpose of this corporation shall be to study, promote an interest in, and disseminate knowledge of lapidary and various Earth Sciences including but not necessarily limited to Geology, Paleontology and Mineralogy. It shall be a particular purpose of the corporation to provide education in these fields to its members and the general public, especially to youth and student groups.