

October 2017



MONTANA GEOLOGICAL SOCIETY NEWSLETTER

Vol. 61 No. 13

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P2 / PRESIDENT'S LETTER

In the last President's Letter of his term, Kevin shares some of his favorite local geologic finds.



P5 / PARADISE VALLEY

Read along as the MSU Geology Club explores the beautiful Paradise Valley area and spends time "geologizing."



P7 / OILIES

It's almost that time of year again for the Oilies' Christmas Party -- you won't want to miss it!



P8 / SECRETARY

Looking for a way to give back to the geology community? Consider volunteering on the MGS Board.



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Add our email address to your contacts so your Newsletters & Luncheon announcements don't end up in Spam!

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PO Box 844
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President's Letter

Dear Membership,

I have had an interesting year as MGS president and have enjoyed the interaction with everyone involved. It was a rough start with the exodus of many when SM left Billings, but we have regrouped, and are looking ahead to another year. This is my last chance as president to share some of the things I love about the geology of our area.



Bem Spring, Nye MT

Before my current position as a hydrogeologist for Montana Bureau of Mines and Geology, I taught science. For years I gathered anything I could collect to make classroom teaching more interesting, rocks, fossils, bones, plants, and even dead things along the highways. And like a pack rat, I have struggled to change my habits. The rocks in the clothes dryer this morning are evidence of a recent relapse.



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cont. on page 3

Thanks to the digital age, my collecting of landscape and geology images has not become overwhelming. Here are a few of my favorites.

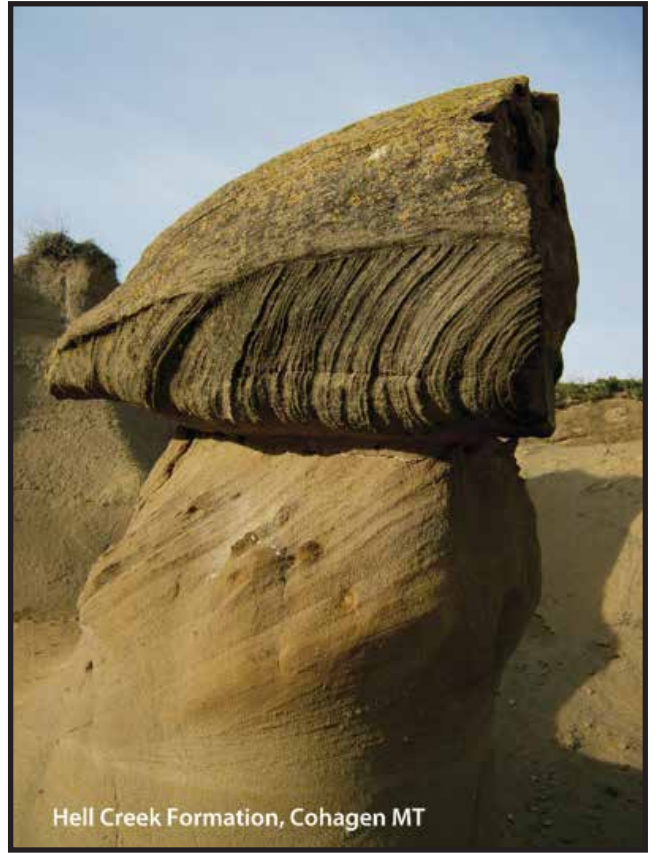


My only problem now is organizing them all, and remembering where they are stored. I can search for hours looking for that one cool picture of that certain fault, or a particular formation. Maybe someday in my older age when I don't have too much to do, I will sort them all. That way my children will be able to quickly discard them as "one of Dad's rock pictures." Perhaps to insure retention, I need to include a family member in my geology photos.

If you have photos, experiences, and maybe even a presentation, please feel free to share your experiences with everyone at MGS.

Be sure to check out our upcoming presentations. Hope to see you soon,

Kevin Chandler
MGS President



Hell Creek Formation, Cohagen MT



Hell Creek Formation, Cohagen MT



Ice in the Lexington Mine, Butte MT

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*You consider a
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anything that has
happened in the
last hundred
thousand years.*

*Have something geological to sell, give, or find?
Place a free ad in our MGS Classifieds!
Contact the Newsletter Editor for more information.*

MSU Geology Club

Paradise Valley Camping Trip

The state of Montana provides an excellent natural laboratory to amateur and professional geologists alike. The Montana State University Geology Club enjoys taking full advantage of this laboratory to gain experience in the field. Based out of Bozeman, a majority of our field trips take place in the beautiful southwestern corner of the state. In October of 2016, the club took a field/camping trip through Paradise Valley. The appropriately named Paradise Valley is a major river valley of the Yellowstone River and is nestled between the Gallatin Range on the west and the Absaroka Range on the east. From a geologic perspective, this valley satisfies the interests of most Earth science enthusiasts. As stated in the 1995 GSA field trip guide, “The geological exploration of this region [paradise valley] serves as a microcosm of the evolution of the geological understanding of the American West” (Locke et al., 1995).

Two days of exploration of this region began with a drive east on I-90 to Livingston, MT. A short distance to the south of Livingston is the “entrance” to Paradise Valley. The day of our field trip was a day of sporadic weather, and we entered the valley to see a large wall of rain bombarding the southern end near Gardiner. Being in no hurry with no obligations but to look at rocks, our club embraced the chance of extreme weather and continued south.



Photo 1. Standing atop Tertiary volcanic deposits on the west side of Paradise Valley. Looking south over the Yellowstone River towards Gardiner. Credit: Chelsea Trevino



Photo 2. Geology club members observe sigma-clasts that serve as kinematic indicators in Archean gneiss. Credit: Chelsea Trevino

The day unraveled as a pleasant combination of science, education, hiking, conversation, and laughter. We started by overlooking a majority of the valley from just below the Pine Creek drainage, located tightly against the impressively large Absaroka Range. Photo 2 was taken from this area, as the club investigated some small-scale geological structures. As we sauntered our way south, we were able to enjoy many different subdisciplines of the Earth sciences

We stopped for lunch along the Yellowstone River and were able to discuss some of the geomorphic processes at work within the valley, including the effects that glaciation and river systems have had over the last ~200,000 years. In the heart of the valley, we explored the Chico Hot Springs region and scrambled around on tertiary volcanic rocks (Photo 3). After spending a majority of the day along the Yellowstone, we diverged from Highway 89 and headed south towards the peaks of the Gallatin Range and Tom Miner Basin.

In the Tom Miner drainage, part of the Gallatin Petrified Forest is exposed. The forest is composed of silicified trees that were buried by ash and mud flows (Wilbur, 1990). We spent the hours of the early evening finding petrified trees and enjoying the area to ourselves. Being late in the day, we decided to set up camp in Tom Miner Basin. After tents and hammocks had been set up, we utilized the last bit of sunlight by making Geo-club jewelry and enjoying some cold beverages. A beautiful day of geologizing ended properly with a group of friends around a campfire, drawn together by a love of learning and a love of our planet.

Written by: Caden Howlett



Photo 3. Panorama (looking east) showing club members standing atop Tertiary volcanic rocks overlooking the meandering Yellowstone River. The high peaks of the Absaroka can be seen in the upper left. Credit: LeaAnne Harbour

You are cordially invited to the

2017 Oilies Christmas Party

*Let us eat, drink and be merry, and
share the spirit of the season with friends.*

**Thursday, December 21th, 2017
5 p.m. to 10 p.m.**

**The Petroleum Club
22nd floor of the Double Tree Hotel
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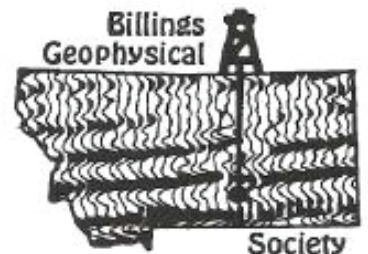
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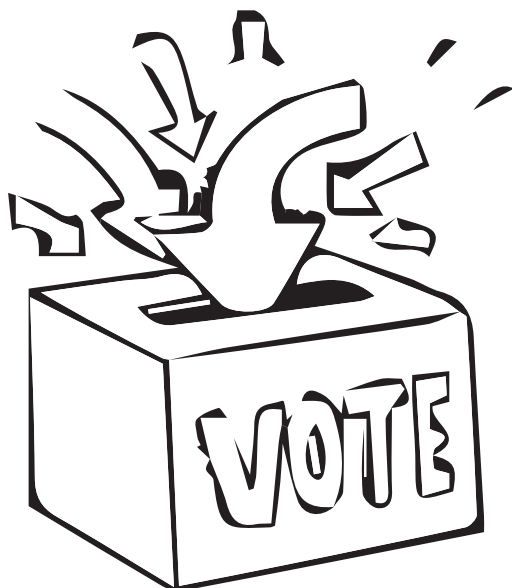
The MGS is looking for a new member to join the team as Secretary for the 2017-2018 term.

To volunteer, or for more information on the job description, please contact:
montanageologicalsociety@gmail.com

Do you have photos of past MGS events, MGS members, or Montana geology?

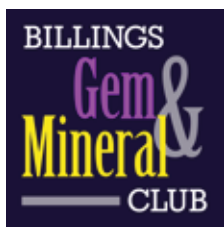
If so, we'd like to see them!

For a chance to have your photo featured in the MGS Newsletter & MGS Facebook page, please submit your photograph(s) and full name to **montanageologicalsociety@gmail.com**



***Annual Officer Elections
will be happening soon!***

Keep an eye on your Inbox for your ballot, which will be sent via email.



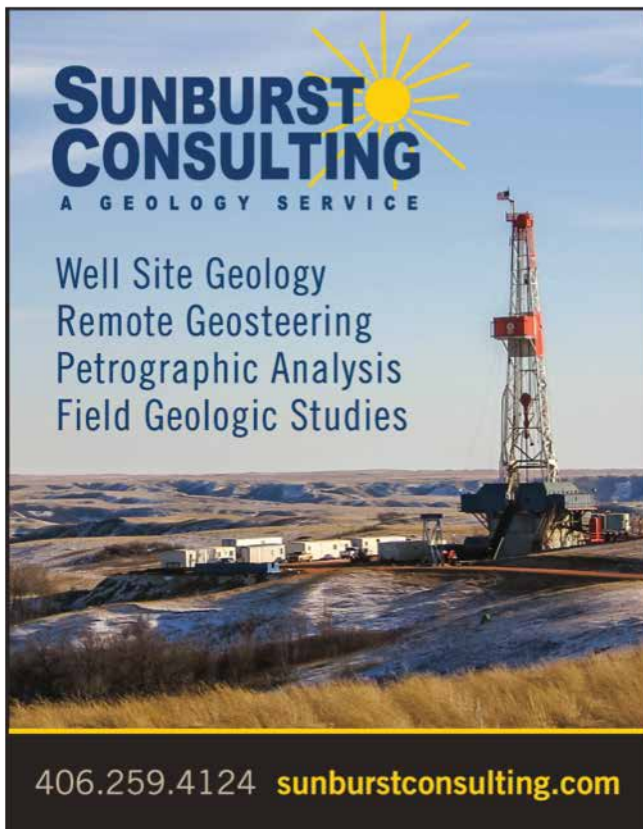
Upcoming Meeting on November 2!

Visit billingsgemclub.com or Facebook for more information.

If you'd like to share a geological experience (trip, hike, etc.) or an upcoming event in next month's newsletter, please submit your text & images to montanageologicalsociety@gmail.com.

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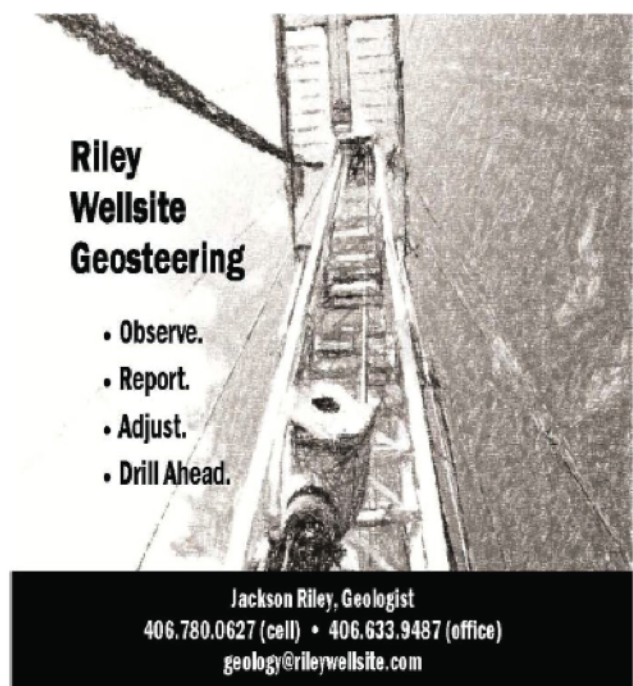
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