



**MONTANA GEOLOGICAL SOCIETY**

# NEWSLETTER

**OCTOBER 2008**

MGS Vol. 52 No. 8

**Wed. Oct. 8<sup>th</sup>**

**Dr. Larry Jones, Rocky Mountain College, "Effects of Holocene Forest Fires on Sedimentation Rates in the Geologic Record" (See abstract page 5.)**

**Wed. Oct. 29<sup>th</sup>**

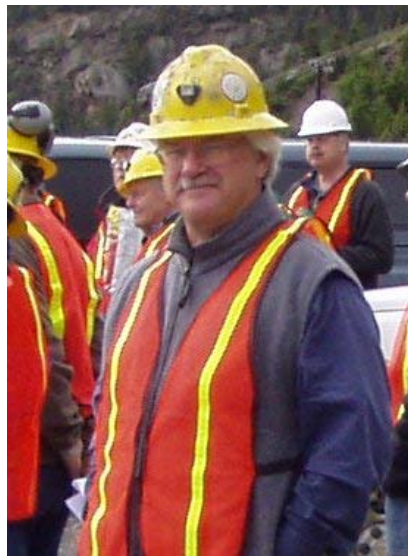
**Jay Gunderson, Montana Bureau of Mines and Geology, "A Look at the Alberta Tar Sands: An Integrated Approach to Reservoir Development" (See abstract page 5.)**

**Wed. Nov. 5<sup>th</sup>**

**Susan Gilbertz, MSU-B, "Reviewing the Yellowstone River Cultural Inventory of 2006" (See abstract page 5.)**

**All MGS meetings are held at the Billings Petroleum Club at 11:45 a.m. unless otherwise noted. Members who do not receive an e-mail reminder can RSVP by calling Doretta Brush at Ballard Petroleum (406) 259-8790.**

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## **President's Letter -**

Well this is it, my final MGS President's letter and my final month in the MGS "chain-of-command". It has been a great ride for the past five years. I think I have made some friends and hopefully not too many enemies during my tenure. But most importantly I have absolved myself of some of the guilt that comes from being a non-participant for so many years!

Prior to being drafted into the Secretary position back in "aught three" I had scrupulously avoided any meaningful involvement in the Society, then out of the blue, someone, and I honestly can't recall who, finally got their hooks into me. I will admit at that point I was already suffering from serious guilt, so I took on the position of secretary and felt an immediate sense of relief. At the time I really didn't know much about the MGS except that it seemed to be a fixture in the Billings geological (Continued on page 2.)

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(President's Letter continued from page 1.)

community, but at that time I had done little more than attend the occasional luncheon meeting and helped edit a couple of publications, including the 50<sup>th</sup> Anniversary volume that very nearly sent the Society into bankruptcy! (Sure, I was partly to blame, but how could we not include all of those beautiful color plates.)

Well, the Society of course survived all of that and we are now back on sound financial footing. Since change is the current political buzz-word I would like to suggest that I was "into" change long before any of the current national political figures. During my tenure as an MGS officer I changed the Society's banking procedures, tried to perk up the Newsletter a little and move us toward email distribution, I instituted a new membership directory and dues collection process, and tried to generate some camaraderie and exchange of ideas via after work beer and geology social gatherings. I hope some of my ideas stick around after I move on to "greener pastures" (I especially like the beer and geology idea, but someone else needs to pick that ball up and run with it!).

In any case, despite the larger than expected investment of time and the many frustrations I've dealt with it's been a lot fun. I would like to thank the guys that preceded me for paving the way and those that will follow for enduring my foibles and for their tolerance and support. The MGS remains a great little organization that brings many benefits to its membership and the community at large. I hope future officers bring the necessary energy and enthusiasm to the organization to keep it vibrant and fun for a long time to come.

*To Wayne Ewert  
From all of us in the MGS  
You're in our thoughts,  
and we wish you all the best.*

# THE MGS IS PITCHING IN TO HELP LOCAL SCHOOLS

The MGS recently received donation requests from two local educators. Larry Jones, Assistant Professor of Geology at Rocky Mountain College, inquired to see if the MGS could supplement the RMC library by donating copies of several MGS publications that they either did not have or only had one reference copy. The donation was meant to complete their reference collection and provide an additional copy that could be checked out. At the July 2nd meeting, the MGS Board unanimously agreed to make this donation. Although the MGS could not fill the entire request from RMC, because some of our publications are out-of-print, we were able to supply many of the requested volumes. In his acceptance and thank you letter to the MGS, Professor Jones praised the high level of support Rocky receives from local geologists and the MGS. Bill Kehler, director of the Rocky library, noted that RMC has one of the most complete geological reference collections in Billings and that these volumes are available not only to RMC students, but to general public as well.

A second educational support request was received by the MGS via member and local geophysicist Debbie Miller. This request originated with Denese Lord, a teacher at Billings West High. Ms. Lord, who has a degree in geology, will be teaching two geology classes this year. There has been a great response to this offering with about 60 students already signed up. The problem was that Ms. Lord needed an adjustable, digital video and image capture device to display still images and objects or share documents through her computer, VCR and projector, and there was no budget available for such a purchase. Total cost of the device was determined to be about \$350 and Ms. Miller generously offered to donate the first \$100 if the MGS would cover the remainder. The MGS Board agreed to honor this request, but after consultation with Rob Diedrich of the AAPG Rocky Mountain Section Foundation, it was decided that the Foundation would fund the entire project.

## **Book Request**

Jeff Kuhn is seeking a copy of

*The 1984 Guidebook to Northwest Montana and Adjacent Canada.*

Please contact Jeff at 841-5055, or via email:

[jkuhnmt@bresnan.net](mailto:jkuhnmt@bresnan.net).

# Montana CO2 Petition

(Editor's Note: The following is an open letter to the MGS from Dave Ballard, Ballard Petroleum.)

A petition regarding CO2 was recently initiated by MGS members and is currently under circulation via email to all Montanans. The petition endeavors to enlighten our elected representatives regarding certain misrepresentations and facts pertinent to CO2 and demonstrate that there is a large voice in Montana that now understands the futility in approaching climate control through CO2 regulation. At a minimum the petition will provide support for the bold state or federal legislator that speaks out against carbon regulation.

In following the state and national debate regarding climate change, and issues proposed for state legislative action, it is clear that many crucial scientific facts have been lost in the conversation. Foremost among these is the proposition that a consensus has been reached within the scientific community regarding the role played by CO2 and the degree to which man-made CO2 emissions can and will influence future climate. For example, during the first gubernatorial debate the claim was made that "95 percent of scientists in the world believe climate change is human-caused". The claim of consensus on these issues is commonly given as a key rationale for proceeding with legislative action that could cause substantial damage to the State's economy and our standard of living. Yet over 31,000 American scientists, including 143 Montanans, have reviewed the underlying science and registered their disagreement with any consensus and the hypothesis of human-caused global warming.

Aided by the email efforts of business trade associations and individuals, circulation of the Montana CO2 Petition is reaching all corners of the state and has registered over 170 participants within the first 2 weeks. Further information is available on the petition website at [www.mtco2petition.org](http://www.mtco2petition.org) .

## Abstract

### **"Effects of Holocene Forest Fires on Sedimentation Rates in the Geologic Record"**

**by Larry Jones**

During the initial stages of an undergraduate research project in a small drainage in Western Colorado, a few measured sections and  $^{14}\text{C}$  dates seemed to confirm that valley-floor aggradation and later arroyo development was synchronous with other locations across the Colorado Plateau. Later, the collection of more detailed data indicated that aggradation might have been more continuous at this location than at others. This led to the collection of a supplemental set of closely-spaced charcoal samples for a high-resolution test of sedimentation rates.  $^{14}\text{C}$  dates from this most recent data set confirmed that a large number (~100) of relatively small-scale depositional events (floods?) had gradually filled the valley floor over a period of about 6000 years, from 6765 until ~530 cal yr BP.

Eventually, the senior researcher realized that the charcoal from which the  $^{14}\text{C}$  dates had been obtained had two other important implications. First, the abundance of charcoal in some layers, when viewed in the light of modern studies that document heavy sediment yields within a few years following major forest fires, strongly implicates periodic forest fires as an important factor for many (~30%) of the sedimentation events. Second, the closely-spaced  $^{14}\text{C}$  data set also provides an excellent record of Late Holocene forest fire frequency in the drainage basin, and by extrapolation, for areas of similar climate and elevation in Western Colorado and Eastern Utah. Long-term data that contains fire frequency has hitherto been obtained only from a few tree-ring studies in isolated locations.  
(Editor's Note: Larry Jones will be speaking at the October 8<sup>th</sup> MGS luncheon.)

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## Abstract

### **"A Look at the Alberta Tar Sands: An Integrated Approach to Reservoir Development"**

**by Jay Gunderson**

The Alberta tar sands are one of the largest known hydrocarbon accumulations in the world, with approximately 175 billion barrels of economically recoverable bitumen. The bitumen sand deposits occur primarily in the McMurray Formation, which lies anywhere from 0 to 500 meters below the surface and covers over 140,000 square kilometers of Alberta. Although finding costs are comparatively small, there are some interesting and unique problems in developing these reservoirs. Jay will be discussing some of these development issues and show how the integration of core, wireline log data, and seismic data can be used to resolve reservoir heterogeneities – critical for reservoir planning and production.

(Editor's Note: Jay Gunderson will be speaking at the October 29<sup>th</sup> MGS luncheon.)

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## Abstract

### **"Reviewing the Yellowstone River Cultural Inventory of 2006"**

**by Susan Gilbertz**

Montanans love the Yellowstone River, albeit in some very differing and interesting ways. Dr. Gilbertz will provide an overview of the research conducted in the summer of 2006 which allowed over 300 individuals to record their thoughts and concerns regarding the Yellowstone River. Using geographical and interest group identifications, well over 6,000 pages of verbatim transcripts have been organized into six reports. Summaries of the six reports will be discussed and illustrated with quotes from the people of the river. Included in the presentation are quotes such as: "The Yellowstone River is the 'Prom Queen' of rivers," and "Don't cry to me when you're flooded because, if you're stupid enough to build there, then it's your problem, not mine."

(Editor's Note: Susan Gilbertz will be speaking at the November 5<sup>th</sup> MGS luncheon.)

**MGS Fall 2008 Field Trip- Many Thanks To ENNIS!**



**Brooke Henderson and Durwood Johnson look on with excitement as Ennis Geraghty describes the intricacies of the Stillwater Complex.**



**A spellbound crowd listens to Ennis as they learn more about anorthosites than they thought possible.**

## REMINDERS

- October 8**      **MGS Luncheon**, “Effects of Holocene Fires on Sedimentation Rates in the Geologic Record”, Billings
- October 29**     **MGS Luncheon**, “A Look at the Alberta Tar Sands: An Integrated Approach to Reservoir Development”, Billings
- November 5**    **MGS Luncheon**, “Yellowstone River Cultural Inventory Project”, Billings
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Submission deadline for the MGS Newsletter is the **10<sup>th</sup>** of each month. Submit requests to Brad Thompson, Editor, [bthompson@stmaryland.com](mailto:bthompson@stmaryland.com)  
Or 245-6248

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