



Colorado Scientific Society

*The objective of the Society is to promote
the knowledge and understanding of Earth science,
and its application to human needs*



Solar panels

Resource Constraints on Alternative Energy Development *Jim Burnell, Colorado Geological Survey*



Gold medals
awarded to CSS
in the late 1890s

Photo by DMNS

The Great CSS Geological Collection *Beth Simmons, Metro State University, CSS historian.*

Thursday, October 16, 2008

American Mountaineering Center

710 10th St. (NE corner 10th and Washington), Golden
Social half-hour – 6:30 p.m. Meeting time – 7:00 p.m.

Abstract

Resource Constraints on Alternative Energy Development

By Jim Burnell, PhD., Colorado Geological Survey

Public support is growing for the development of energy generation from renewable sources. An aspect of renewables that is possibly unknown by many, however, is the hardware needs for these technologies. The infrastructure requires mined materials, including imported strategic and critical minerals. Silica, copper, gallium, indium, selenium, cadmium and tellurium are required for the dominant photovoltaic technologies. Silver and aluminum are necessary for “concentrating solar

power” technology. Zinc, vanadium, platinum group metals, and rare earth elements are key components of power storage, hybrid vehicle, and fuel cell applications. All these materials must be mined. At present, the U.S. is woefully dependent upon import sources for most of these materials and demand is already squeezing the prices. Domestic sources must be found and developed if energy independence is to be achieved using alternative sources.



Native tellurium

Abstract

The Great CSS Geological Collection

By Beth Simmons, Metro State University, rogue geologist

When did CSS win a gold medal at world-expositions? Where were the “fairs”? What did the Society display? Come to the next CSS meeting to learn the answers to these Society trivia questions.

By the end of 1883, less than a year after inauguration, CSS members began to amass its great geological collection and technological library. For 20 years or more, the collection grew. Moving and housing the collection and library

became a major problem as the Society went from pillar to post finding meeting places. When the library was finally donated to Denver Public Library in 1977, the accumulated journals and books practically filled an entire room! After being moved all over Denver, the geological collection was housed in the Colorado History Museum in 1914, where it remained until the Society donated the specimens to the Historical Society in the 1920s.

When the Museum moved to its new building (which is soon to be demolished), the Historical Society transferred the over 2,000 specimens in the CSS collection along with the State Bureau of Mines collection to the Colorado School of Mines Geology Museum where both collections reside today, complete with records.

Some CSS specimens, particularly the meteorites, were placed in the Denver Museum of Nature and Science, where Robert Nininger cataloged them and studied them. The most precious specimens of all, two Smuggler-Union gold ore specimens, originally from John A. Porter,

were finally donated to and displayed at the DMNS in 1977.

The study of the CSS collection illustrates the growth of the Colorado Scientific Society and the development of science and mineral technology in the Rocky Mountains. It shows the importance Society members placed on specimens that demonstrated, not beauty, but scientific principles. Through the CSS Proceedings and meeting minutes, most of the specimens can be traced to reveal their own precious stories.

Modern-day scientists who study the mineralogy of particular mines, mining districts, or even rocks like coal from locales throughout the West, or early metallurgical processes, should investigate these specimens that were collected and catalogued over one hundred years ago. They provide a wealth of information from places that may no longer exist!

Come to the next CSS meeting to hear about and see some of the vestiges of the great CSS Collection!



#8340 Barite in Castle Rock Rhyolite (Wall Mtn. Tuff) from the Hathway Quarry southeast of Castle Rock, donated by Geo. Cannon, Jr.



#8727 Aragonite from the Sacramento Mine (Park County), donated by Whitman Cross (probably from the 1880 work on the Leadville quadrangle).

Photos by Colorado School of Mines Geology Museum.

President's Notes, October 2008

By Matt Morgan

Last month's field trip to the northern Never Summer Range, led by Ed Larson, Mike O'Neill, Jim Cole, and Karl Kellogg was a complete success. Even though I was unable to attend, I was told by many that it was one of the most enjoyable CSS field trips in years. A combination of interesting geology, beautiful weather, and engaging attendees and leaders always make for a good time. Attendance was near 40 persons, with 8 of those being students. This is a very high number of students, at least in my recent memory and something that is very encouraging and hopefully not an anomaly. The lack of students at CSS events is alarming. Who is to blame? The CSS? The students? Our schools? Or maybe times have changed....

Back in the mid-1990s when I was an undergraduate at New Mexico Tech, I couldn't wait for the next field trip to some spectacular geologic wonder, and in New Mexico, there were many. The lecture halls were full when invited speakers came to campus to present their latest findings. Many weekends were spent searching for smithsonite or fluorite, hoping to find that one specimen that could "pay for your tuition" as my wife always said.

Now, when time permits, I attend some of the late afternoon lectures at the local universities that still host internationally known geoscientists. Looking around the open lecture hall, you will find only a spattering of students, sometimes none. I recently

was at a presentation where it was the speaker, a professor, and yours truly. No, it wasn't during a holiday break. When I ask a student why they do not attend these lectures, the typical response is "I am too busy." I was busy too, but still found time to go and learn about something not in a textbook. Maybe I was obsessed, but then so were the several dozen others that were in regular attendance. Perhaps lectures are now just "too boring". Sometimes, I can see the point; I bore of them as well. Those currently in the geologic profession may need to get with the times. Podcasts, YouTube videos, and Blogs are now the way society is picking up their information, especially the younger generations. I was recently sent an email from the American Association of State Geologists, which gave a link to the Utah Geological Survey's YouTube video on the Wasatch fault

(<http://www.youtube.com/watch?v=DbyPiCkznE0>) . At the time the email came into my inbox it already had several HUNDRED views! Plus it can be accessed by virtually anyone worldwide. Reach them, and they will come.

As the CSS moves forward, I suggest we take a look at uploading or linking to multimedia lectures or field trips on our website to engage those techno-savvy viewers to get involved. Even a CSS page on Wikipedia.org could reach thousands. It can only help spread our message!

CSS News

By Beth Simmons

Thanks to Tom Steven and the Dick Taylor family for donating Ogden Tweto's complete bound collection of the Society's Proceedings along with other books. Eventually the proceedings will be posted on the CSS website. Check it out to

see all the historical information John Ghist, the webmaster, put up this summer!

On Saturday, September 13th, President Matt Morgan and Historian Beth Simmons presented a talk at the Gem and Mineral Show about the Society and its collection which formed the

foundation of the State Historical Society collection, and thus the CSM geology museum. An accompanying display showed some of the more

unique Colorado specimens, the society gavel and embosser for the duration of the show. Did you see it?



Earth Science Meetings and Talks

Newsletter items must be received by the 25th of each month.

Items may include special events, open houses, etc...Thanks!

Colorado Scientific Society's regular meetings are held the 3rd Thursday of the month at the American Mountaineering Center in Golden (unless otherwise advertised). Social time begins at 6:30 p.m. and talks start at 7:00 p.m. For more information, contact Matt Morgan, at 303-866-2066, matt.morgan@state.co.us



Denver Mining Club meets every Monday at Country Buffet near Bowles and Wadsworth (at 8100 W. Crestline Ave., in the shopping center) 11:30-1:00. Oct. 6, Larry Jacobson, "Jewell of the Kootenays; the Emerald Mine, Salmo, B.C." Oct. 20, Matt Morgan, CGS, "Crash, boom, bang: a look at recent meteorite encounters with humans." <http://china-resources.net>.

Denver Region Exploration Geologists' Society (DREGS) meets in the Mutual Consolidated Water Building, 12700 West 27th Avenue, Lakewood. Social 6:00-7:00 p.m. Presentation at 7:00 p.m. Meetings are normally scheduled for the first Monday of each month. Oct 6, Michael Kirschbaum and Murray Hitzman, "Alteration and mineralization at the Guelb Mohgrein magnetite-cu-gold-co deposit, Mauritania" and Elizabeth Pesce, et al., "Gold mineralization within the Otjikoto gold deposit, north-central Namibia". For information contact Jim Piper, (303) 932-0137, or the website <http://www.dregs.org>.

Denver Well Logging Society (DWLS) meets on the third Tuesday of each month, Sept. through May. Lunch and a technical talk at the Wynkoop Brewery begins at 11:30 a.m., 18th and Wynkoop Sts. in Denver. Call Sarah Voight at 720-946-1374 by prior Thursday for reservations. Web page: <http://dwls.spwla.org>.

Rocky Mountain Association of Geologists (RMAG) Reception at 11:30, lunch at noon, talk at 12:30. Reservations by recording at 303-623-5396 until 10:30 a.m., prior Wed. Luncheon \$30. Talk only (no res)—\$5. Location: Denver Marriott, 17th & California. <http://www.rmag.org>.

Rocky Mountain SEPM Reception at 11:30, lunch at noon, speaker at 12:30. Reservations: luncheons@rmssep.org, before noon of preceding Friday. \$15.00 lunch, \$3 talk only. Wynkoop Brewing Company, 1634 18th St., Denver. <http://www.rmssep.org>.

University of Colorado at Boulder, Geological Sciences Colloquium Weds, 4:00-5:30, Rm. 380. Refreshments at 3:30 on the 3rd floor. Oct 8, Michael Manga, UC Berkeley, "Why do volcanoes only sometimes erupt explosively?" Oct 22, David Harwood, U Nebraska, "Antarctic ice sheet response to Miocene and Pliocene global warm events." <http://www.colorado.edu/GeoSci>.

Colorado State University, Dept of Geosciences, Rm 320 Warner College of Natural Resources Bldg, Fridays, 4:10 pm. 970-491-5661. Oct 13, William Graf, U N. Carolina, "Restoration of large American rivers." <http://welcome.warnercnr.colostate.edu/geo-training/index.php>

Friends of Dinosaur Ridge. Web page: <http://www.dinoridge.org>. Admission is free, but donations are welcome. Visitor's center, 16831 W. Alameda Parkway. Talks at 7:00 p.m. Oct 29, Brent Breithaupt and Martin Lockley, "Pterosaur tracksites." FODR Visitor Center (303) 697-3466 or contact Beth Simmons at cloverknoll@comcast.net for information.

Denver Museum Nature and Science Oct 10, 7 p.m., Jack Horner, "Dinosaurs with Jack Horner." IMAX auditorium. Oct 29, 7 p.m., Mark Norell, "It's a bird—no—it's a dinosaur!" . \$12 member, \$15 non-member. <http://www.dmns.org/main/en/General/Education/AdultProgram/Lectures/>

Colorado School of Mines, Van Tuyl Lectures Thursdays from 4-5 p.m. in Berthoud Hall room 108. Oct 16, Warren Hamilton, "Earth's first 2 billion years, internal crust, no plate tectonics." Oct 23, Neil Williams, "Y generation mineral exploration." <http://www.mines.edu/academic/geology>

USGS Geologic Division Colloquium. Thursdays, 1:30, Foord Room, Building 20, Denver Federal Center. For more information contact: Peter J. Modreski, U.S. Geological Survey, Denver, Colorado tel. 303-202-4766, fax 303-202-4767 email pmodreski@usgs.gov.

Café Scientifique, Wynkoop Brewery, evening science talks at 6:30. Free, except for beer. <http://www.cafescicolorado.org>

Colorado School of Mines, Microscopy short course, Dec. 15-19, 2008, 9 a.m.-5 p.m. Use of reflecting microscope, ID of 40 common ore minerals, study of ore mineral suites. \$995. Taught by John Lufkin, 303-997-7365, lufk3@comcast.net. Class limit of 10.

For a constantly updated, online geo-calendar, visit the Colorado Geological Survey at

<http://geosurvey.state.co.us>

Colorado Scientific Society
P.O. Box 150495
Lakewood, CO 80215-0495

<http://www.coloscisoc.org>



OFFICERS

President: Matt Morgan, CGS, 303-866-2066 matt.morgan@state.co.us
President-Elect: Don Sweetkind, USGS, 303-236-1828, dsweetkind@usgs.gov
Treasurer: Jeremy McCreary 303-744-0907 jeremv@cliffshade.com
Secretary: Lisa Fisher, CSM, 303-478-9427 (c), lfisher@mines.edu,
Past President: Bill Nesse, UNC, 970-330-7183, nesse@ctos.com

COUNCILORS

2007-2010: Jeremy McCreary 303-744-0907 jeremv@cliffshade.com
2007-2010: Tim McIntyre
2006-2009: Scott Minor, USGS, 303-236-0303, sminor@usgs.gov
2008-2011: Cal Ruleman, USGS, cruleman@usgs.gov
2008-2011: Lee Shropshire, UNC, 970-352-8778, leeshrop@comcast.net

COMMITTEE CHAIRPERSONS

Best Paper Award: Matt Morgan, CGS, 303-866-2066, matt.morgan@state.co.us
Database Manager, membership changes: Erik Oerter, CGS, erik.oerter@state.co.us
Field Trips: Karl Kellogg, kkellogg@usgs.gov
Graphics: Karen Morgan, CGS, 303-866-3529, karen.morgan@state.co.us
History: Beth Simmons, cloverknoll@comcast.net
Membership: Thom Fisher, Libby Prueher, TC Wait, Eric Nelson, Beth Simmons
Memorial Funds: Bill Nesse, 970-330-7183, nesse@ctos.com
Newsletter Editor: Celia Greenman, CDOW, 303- 291-7327, celia.greenman@state.co.us
Outreach: Sue Hirschfeld, 720-565-9302, eqdoc@ix.netcom.com
Program: Emmett Evanoff, 303-444-2644, emmettevanoff@earthlink.net, Libby Prueher, Christine Turner
Publicity: Lisa Rukstales, lrukstales@usgs.gov
Science Fair: Chuck Weisenberg, 303-238-8806, cweinsbrg@msn.com
Webmaster: John M. Ghist, 303-875-9671 jmghistcss@msn.com or jmghist@hotmail.com

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