



Geological Society of Nevada

Southern Nevada Chapter

Newsletter

November/December 2006

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November 30: Dr. Bruce Crowe

Battelle Memorial Institute

Basaltic Volcanic Cycles at the Southwest Nevada Volcanic Field

Sponsor: **Marty Dennis**,
Eklund Drilling Co., Inc.

December 7: Steve Scott

Museum without Walls Silent Auction

Sponsor: **Rich DeLong**
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Location/Time: LFG Rm. 105

(for both Nov. & Dec.) Social half-hour at 6 pm
Meeting business at 6:30 pm
Talk at 6:45 pm

Geological Society of Nevada, Southern Nevada Chapter

University of Nevada, Las Vegas
4505 Maryland Parkway, Box 4010, Las Vegas, NV 89154-4010
<http://geoscience.unlv.edu/GSN/gsnsc.htm>

Happy holidays! You could be the bearer of great geological gifts this holiday season. The December 7 meeting will be the perfect opportunity to shop for the geology enthusiasts on your shopping list. There will be rocks, minerals, fossils, and other geology-related items available at the silent auction. Items are still needed for the auction. If you have any interesting items that you would like to donate, now is the time to contact Bruce Hurley, hurley@nv.doe.gov. Steve Scott, the speaker at the December meeting, will give us an update on the "Museum without Walls" program and what it is doing to support geoscience education in Clark County schools.

At our next meeting, November 30, Bruce Crowe speaks about the volcanic fields of southwestern Nevada. Dr. Crowe is a member of the panel developing volcanic hazard models for Yucca Mountain.

Thank you **Marty Dennis, of Eklund Drilling**, for sponsoring the November 30 meeting. Remember, meeting sponsors receive free advertising in our chapter newsletter throughout the fiscal year.

The deadline for renewing your GSN membership is here. If you wish to continue to receive GSN news and announcements **membership dues must be paid by November 30**. Forms are available on GSN's new web site at www.gsnv.org.

Many members have expressed a desire to hold meetings at a local restaurant on occasion. If you have food preferences and/or restaurant suggestions, details and contact information follow.

With such a short time between the November and December meetings, there will not be a December newsletter. The next issue will go out in time for the January GSN meeting.

Have a great holiday season!

-- Lora Griffin

MEMBERSHIP DUES!

Last Reminder!!

Don't forget, membership dues need to be sent in now if you would like to continue receiving the many benefits of GSN membership. **Dues must be received before November 30.** GSN newsletters and announcements will not be sent to those who have not paid their dues by the end of November. Details along with application and renewal forms are available online at www.gsnv.org.

Forms and dues payments should be sent to GSN, PO Box 13375, Reno, NV, 89507; or fax a credit card payment to (775)323-3599.

ADS & SPONSOR

Advertising for MEETING SPONSORS

Sponsor contributions are a valuable resource to GSN Southern Nevada Chapter members. In appreciation for the gift of sponsoring the refreshments at a monthly meeting, each sponsor will have his/her name and company or organization listed in a special advertisement within the GSN Southern Nevada Chapter newsletter for the duration of the fiscal year.

GSN Southern Nevada Chapter is a non-profit organization and relies on meeting sponsors, and advertisements, to keep our chapter running. If your business would like to sponsor social hour at one of our Southern Nevada Chapter meetings or place an ad in our monthly newsletter contact Bruce Hurley at 702.295.1284 or hurley@nv.doe.gov.

SILENT AUCTION Geology Items Needed *December 7 Meeting*



The December 7 meeting features speaker, Steve Scott, of the Clark County School District *Museum without Walls* program. This important educational program provides a mobile display of rocks, minerals, and fossil specimens that visits district schools in support of earth science courses. Steve will give an update on what is new with the museum program.

Steve's talk will be preceded by dinner refreshments at 6:00 p.m., and will be followed by an introduction to a silent auction of minerals, fossil specimens and other geology-related materials donated to the Southern Nevada Chapter during 2006. Auction winners will be announced immediately following the meeting.

Items are still needed for auction. Suggested items for donation are any rock, mineral, fossil specimen, or any items of interest to a geologist. Other types of items that may be included are old mining items (i.e., like carbide lamps or stock certificates), textbooks, rock hammers. Items for auction should be valued at \$50.00 or less, unless specified.

The meeting and auction will be held in Room 105 of the Lily Fong Geoscience Building at UNLV. This is the perfect opportunity for members to stock up on unique gifts for the geology buffs on their holiday shopping lists. For more information, contact Bruce Hurley, hurley@nv.doe.gov

Note from the President

Future Dinner Meetings

In response to membership interest, we are looking at the potential for holding one or more 2007 meetings at a restaurant location, as does the Reno chapter. A minimum attendance of 25 persons is required for a restaurant location, and meal cost would be approximately \$20/person. The cost of student meals will be paid for by GSN.

We are tentatively looking at holding the first such meeting at a location in the vicinity of US-95 and Rainbow, probably on January 25. The meeting time could be "flexed" to allow more commuting time, if needed. Future dinner meetings would include a comparable location on the east side of town.

In order to see if such a meeting is feasible, we need a "head count" of those persons willing to commit to attend. Therefore, if you plan to attend, please indicate this to me via E-mail at hurley@nv.doe.gov by November 30. Please indicate any food preferences (i.e, barbeque, Italian, Mexican), especially those foods you would prefer not to eat, and the latest starting time you could accommodate.

I look forward to seeing everyone at the November meeting.

-- Bruce

UPCOMING EVENTS

November 30: Meeting – Bruce Crowe – Volcanism at Yucca Mountain


December 7: Meeting – Steve Scott – Museum without Walls
Silent Auction of Minerals, Fossils and geological items

January 25: Meeting - Steve Rowland

February 22: Meeting

March 29: Meeting - Wayne Belcher
Death Valley Regional Groundwater Flow Model

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Basaltic Volcanic Cycles at the Southwest Nevada Volcanic Field

Dr. Bruce Crowe – Battelle Memorial Institute

Abstract

Multiple cycles of basaltic volcanic activity post-date the Miocene major caldera cycles of the Southwest Nevada Volcanic Field with continued episodes of small-volume eruptive pulses in the Pliocene and Quaternary. The waning phase of the eruptive cycle of the Timber Mountain caldera cycle includes voluminous basaltic volcanic activity (cumulative volume > 10 km³) centered mostly near the southern part of the Timber Mountain caldera (Dome Mountain and temporally associated basalts of Crater Flat, Jackass Flat and the Amargosa Valley; ~ 11 to 9.5 Ma). Subsequent basaltic activity include episodes of small volume (< 3 km³) basaltic volcanism along the northern part of the Silent Canyon ring-fracture zone (~ 9-9.5 Ma), the Yucca-Frenchman Flat basins and adjacent ranges (~ 8.6 to 7.3 Ma) and within the southern part of the Amargosa trough (~ 4.6 to 0.1 Ma). The latter episodes of basaltic volcanic activity have received considerable attention because of their potential impact on a repository for geologic disposal of high-level radioactive waste at Yucca Mountain. Background information will be presented on the methods for developing alternative probabilistic volcanic hazard models for Yucca Mountain.

Speaker's Background

Dr. Bruce Crowe is a geologist and environmental scientist with Battelle Memorial Institute and is currently the science advisor for the environmental management programs at the Nevada Test Site. Bruce received his B.A. from Fresno State University and his M.S. and Ph.D. from the University of California, Santa Barbara. He worked for 29 years for Los Alamos National Laboratory before joining Battelle. The focus of Bruce's current work is on the development and application of probabilistic performance assessment models for disposal of low-level and transuranic radioactive waste and on the implementation of modeling strategies incorporating uncertainty for evaluating groundwater transport of contaminants at the Nevada Test Site. He is currently a member of the expert judgment panel that is updating the probabilistic volcanic hazard assessment for Yucca Mountain.