



AEG SACRAMENTO

Monthly Bulletin and Meeting Announcement

Happy New Year!

Welcome to another great new year as a member of AEG Sacramento! We are looking forward to another exciting year of great speakers, seminars and field trips...but as always we need your help to make it happen! So make a resolution to get involved with AEG and help make this year the best yet!

As part of our continuing efforts to make AEG more accessible and fun for our members we are making a change to our meeting schedule. We know late nights drinking beers with your geology friends can make things difficult getting into the field the next morning. So to get you home earlier, we are going to move the start of the meeting up to 5:30 pm! Please make a note of it.

Section Meeting Date: **January 31, 2006**

Meeting Location: **Sudwerks in Davis**, 2001 Second Street, adjacent to I-80: get off at Richards, turn right, right on 5th, then right on L St ;left on Second St to Sudwerks, under the Pole Line Rd bridge superstructure fronting I-80 Fwy.

Meeting Schedule:

- 5:30 - 6:30 Sign-In & Social Hour
- 6:30 - 7:30 Dinner & Announcements
- 7:30 - 8:15 Speaker Talk & Slide Show
- 8:15 - 8:30 Questions & Answers

The Clear Lake volcanic field - What can geochemistry tell us about the likelihood of eruptions?

Dr. Lisa Hammersley, Sacramento State University

Abstract:

The Clear Lake volcanic field (CLVF), located in the Coast Range of northern California ~80 miles NW of Sacramento, has been the site of volcanic activity over the past 2 million years. There has been considerable interest in determining the likelihood of future eruptions at Clear Lake and the area has recently been identified as a High Threat volcano (USGS Open File Report, 2005). The questions of if a volcano will erupt, when a volcano will erupt and



what the size of an eruption will be continue to be fundamental issues in volcanology. In order to address these issues, in particular the potential size of an eruption, it is important to gain an understanding of the evolution and structure of a volcanic system.

New geochemical data have been combined with available information on the composition and petrology of lavas and the thermal and seismic structure of the underlying crust to develop a detailed model for the deep structure and magmatic processes of the Clear Lake volcanic system. The results confirm that magma supply, magma buoyancy, and crustal temperatures control magmatic evolution. A temporal trend of increasing ϵ_{Nd} over the past 2 million years suggests that magma supply in the Clear Lake volcanic field has been increasing and is still high. This is consistent with high heat flow in the area and high $^3He/^4He$ in thermal gasses. The current pause in eruptive activity could represent a period of silicic magma accumulation in the crust. Future eruptions in the Clear Lake area may therefore be silicic and larger in volume than those over the past 100 ky.

Dr. Lisa Hammersley Sacramento State University

Lisa Hammersley hails originally from England and has a BSc in Geology from the University of Birmingham. After traveling the world for a couple of years she returned to her studies and received a Ph.D. from U.C. Berkeley in 2003, joining the faculty at Sacramento State soon after that.



Dr. Hammersley specializes in igneous petrology with an emphasis in isotope and trace element geochemistry. Her interests involve understanding the processes that occur in magma chambers and how they affect the evolution of volcanic systems. She has studied volcanic systems in Ecuador and the U.S. and is now working on volcanism in northern California and Mexico.

A Message from Your Board

by
Eric Chase

A very happy new year to all our members. We had a very enjoyable time at our joint holiday meeting with the Groundwater Resources Association in December, with a great talk on reconstructing the paleoenvironment for a fascinating assemblage of late Pleistocene fossils at an active landfill site in Nor Cal. There were about 70 in attendance, and I renewed acquaintance with many GRA members I have known through the years. Your executive board has been busy over the holiday season planning the slate of speakers for the coming year.

Our January meeting will feature Dr. Lisa Hammersley from the Earth Science faculty of Sacramento State, who will present her findings on an investigation of what geochemistry can tell us about the potential for future eruptions at the Clear Lake volcanic field. Having met and spoken with Lisa in the past, I can say that this should be a fascinating talk, and we look forward to seeing you all there.

This morning there was an article in the Sacramento Bee about naturally occurring asbestos, which remains a controversial topic, particularly in El Dorado County where I happen to live. Much of the controversy involves experts disagreeing with each other about whether recent sampling was properly conducted to allow accurate risk assessment, also the mining industry consultants versus the U.S. EPA, also independent academic reviews of consulting reports, and the differential toxicities of various asbestiform minerals, what sizes of particles carry health risk, et al. It is therefore fitting that our February meeting will feature an update on PLM and other laboratory methods being used in the ongoing investigations, and also an update on recent regulatory actions with respect to NOA.

On the national scene, following my abiding interest in student participation in AEG, I am working with the Strategic Plan committee, chaired by Deb Green, to facilitate a student member section on the national website. This will be chock full of resources for students, including information and links on grants, scholarships, field camps, and geo-resources on-line. Former Sac Section member Julia Turney is leading the website revamping effort at the national level.

Planning continues for the Spring '06 workshop on Drilling and Sampling Technologies, which will include both geotechnical and environmental technologies. We will be looking for a couple of volunteers in the near future to assist your Executive Board in making this workshop happen. Look for specifics coming soon as we firm up the presenters and facility info.

And finally a couple of miscellaneous notes, that later this year a field trip is in the works, and our section will be the hosts for the 2009 national meeting. We already have an offer of support from the San Francisco section, and we are evaluating venues for the meeting now. I look forward to seeing you at our upcoming monthly meetings!

Hot Off the Press!

Commentary on the proposed elimination of the California Specific Examination

By Eric Chase

For those who do not already know, the Board of Registration for Geologists and Geophysicists (BGG) recently voted to rescind the requirement that candidates for licensure in California pass a California-specific examination (CSE). Thus, if the legislature approves a bill to modify the registration act, geologic licensure in California will be solely based upon the Associated State Boards of Geology (ASBOG) examination. What prompted this move, one might ask? It was prompted by the actions of Mr. Paul Sweeney, the Executive Officer of the Board. Mr. Sweeney, back in April, 2005 issued a document entitled "The California-Specific Exam, A Value Appraisal".

In this document Mr. Sweeney includes test results that indicate that averaged over 7 CSE's given, 52 per cent of applicants passed (keep in mind this is a majority of applicants). Mr. Sweeney cites the fact that the tasks involved in the practice of geology do not vary from state to state, as documented in two Occupational Analyses conducted by ASBOG in 1995 and 2000. What Mr. Sweeney does not say is why this is relevant. How much fault trenching is done in Florida? It is on their task list, but no one really does it much. How much landslide mitigation work is there in Kansas? Again, it is on their task list, but they don't do very much of it. In my view, contrary to Mr. Sweeney's argument, it is not the list of tasks that is relevant, but how well the tasks are performed in the state in question that matters.

Next, Mr. Sweeney states that there has not been a single instance of a consumer, regulator, or private citizen calling the Board staff about an enforcement issue in which the subject of the uniqueness of California geology or seismicity was a factor. Ironically this is refuted by the recent posting of an enforcement action (www.geology.ca.gov/enforcement_program) in which the licensed geologist was fined for improperly characterizing which formations were present in a bridge abutment excavation. I am aware of numerous cases of improper geologic practice in problematic terranes owed to ignorance of the dual hazards of seismicity and instability of hillsides. Just the cases in Malibu alone would fill several books in the telling.

Mr. Sweeney further states "The incessant harping by a small group of vocal geologists who insist that the public would be at risk should the CSE be eliminated has to be matched with the same group consistently complaining about the lack of young people entering their profession." Mr. Sweeney seems to purport that a lack of graduates in geology is due to the difficulty certain geologists may have in passing the CSE three years later. This to me is a ridiculous notion. Mr. Sweeney further refers to the CSE as "the CSE roadblock". If a majority of applicants pass the exam, how can it be derided as a roadblock? One would surmise that Mr. Sweeney favors licensing out-of-state practitioners who cannot currently pass the CSE. Do you? Does public safety take second seat to a small special interest group, namely out-of-state geologists (and in-state candidates) who cannot pass the CSE? Why is Mr. Sweeney promoting this idea?

Since issuing this "value appraisal" Mr. Sweeney has convened a "focus group" selected from volunteers who answered his solicitation. I was overseas at the time of this focus group's meetings, and could not participate. I have communicated with several AEG members in Southern and Northern California who volunteered but were not selected for the focus group. A number of us reviewed the names of the members of the focus group, and could not identify any AEG

members among them. By the way, in California we now have nearly 1,000 AEG members, which represent collectively a significant percentage of practicing professionals in this state. The focus group concluded, with Mr. Sweeney, that the proper course of action was to eliminate the CSE. He apparently had a profound influence on these people. Why is Mr. Sweeney promoting this idea?

Mr. Sweeney is not a geologist, and no doubt is unaware why we started the process of examining geologists here in California. We were the first state to do it, because of unique geologic conditions and the overwhelming demand of our populace for development of increasingly problematic terranes in proximity to urban centers. This intersection of demand, economics, and unique geologic conditions had led to significant property losses and fatalities in the years preceding the Registration Act. These conditions still exist, and are in fact more severe now than they were then. When the BGG adopted the ASBOG examination in July of 2002, it did so with the provision that passing of a California-specific examination also be required prior to licensure. Why did they do this, the only State besides Oregon to do so? Mr. Sweeney seems ignorant of the reasons. Why is Mr. Sweeney promoting this idea?

The only protection the public has in California against the negligent and incompetent practice of geology is the examination process. Enforcement actions do not protect the public. Mr. Sweeney wants to remove this protection, dumbing-down the examination process, as if California did not present unique geologic challenges. Why is Mr. Sweeney promoting this idea? His reasons may lie in the difficulties he faces in enforcement against the unlicensed practice of geology due to the limited resources at his disposal. He has complained about this elsewhere.

Public safety in California is not served by such actions, and the BGG did not intend for this to occur when they approved the change to the ASBOG examination. I would much rather see Mr. Sweeney removed than the CSE. I would love to hear from our membership on this. Please feel free to send your opinion to me at echase@ameinc.net. Also, I encourage you to come to the BGG meeting this Friday January 20, 2006 at 9:00 A.M., and voice your opinion directly to the Board. See the Board's website for meeting details.

Editorial Note:

The issue of CSE in professional licensure is a hotly contested move and will undoubtedly be the subject of continuing debate for some time to come. Recent State of California memos about the proposed elimination of the CSE containing the recommendations of an Office of Examination Resources focus group were obtained by our legislative officer, Marcia Kiese, and will be available for download on the "[Legislative News](http://www.aegsacto.org)" page of our website www.aegsacto.org. Individuals interested in participating in this debate are encouraged to review these documents as well as those referenced by Mr. Chase.

January 2006 AEG Meeting Facsimile Transmittal Sheet

(or e-mail to the address below)

To: Lisa Breckenridge (Wallace-Kuhl & Associates, Inc.)

email: LBreckenridge@wallace-kuhl.com

Phone: (916) 372-1434

Fax: (916) 290-5429

From: _____

Or You Can Sign Up Online at: www.aegsacto.org

Subject: January 2006 AEG Sacramento Section Meeting

Date: January 31st, 2006

Place: **Sudwerks in Davis**
(For directions, see page 1)

Time: 5:30 - 6:30 PM - Sign In and Social Hour
6:30 - 7:30 PM - Dinner & Announcements
7:30 - 8:15 PM - Speaker Talk and Slide Show
8:15 - 8:30 PM - Questions and Answers

On the Menu: *Saurbraten*
Vegetable Lasagna
Fresh Stir-fried Vegetables
Mashed Potatoes
Garden Salad

Cost: \$28 member (w/ RSVP) \$30 nonmember and walk-ins

Notes: First 5 Students (w/RSVP) Eat For Free!
Additional Student RSVPs: \$5.00 Student Walk-ins: \$10.00
Alcoholic beverages are available for those 21 and over on a cash basis.

AEG Sacramento 2006 Calendar of Events

January 31st	Dr. Lisa Hammersley, Sacramento State University The Clear Lake Volcanic Field
February 28th	Jim Flores and David Siederquist NOA: The latest update and a demonstration of PLM
March 27th	Nate Manley, Sacramento State University "Engineering Geology vs. Scientific Curiosity: Lessons in observation from the Shoo Fly Complex"
April 25th	Ross Guenther Reopening of the Idaho-Maryland Mine, Grass Valley, CA
April 28	Proposed Drilling and Sampling Technologies Workshop
May 30th	TBA
June 27th	TBA
July	No meeting
August 29th	TBA
September	TBA
October 24th	3rd Annual Student Night Speaker TBA
Oct. 30-Nov. 4	AEG 2006 National Meeting; Boston, MA "NORTHEAST ENGINEERING GEOLOGY: FROM TILL TO FILL"
November	Thanksgiving Holiday, No meeting
December	Joint AEG-GRA Holiday Meeting Speaker and Date TBA