SAN FRANCISCO SECTION NEWSLETTER

Meeting Details:

- **Tuesday, September 14th**
- Spenger's, Berkeley
- 6:00pm – Cocktail Hour
- 7:00pm – Dinner
- 8:00pm – Speaker
- $30 members, $15 students, $35 non-members

Reservations Due By NOON, FRIDAY, SEPTEMBER 10th!

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SEPTEMBER 2004 PROGRAM

ANNUAL MEETING PREVIEW

FIELDS OF EXPERTISE – CIVIL ENGINEERING VS. ENGINEERING GEOLOGY

Frank Kresse, Consulting Geologist

Having practiced engineering geology for 48 years and working with the California Board of Registration since California achieved registration some 35 years ago, I've been trying to help divide the professional turf. Deciding what is civil engineering and engineering geology (or just geology) sounds disarmingly simple. Nothing could be farther from the truth. As soon as a field of expertise (FOE) table, assigning professional tasks to engineers and geologists, and also acknowledging overlap between the two, is…

(Continued on Page 3 - Kresse)

TOMATO JUICE-INDUCED SINKHOLES – UNDERGROUND CONSTRUCTION DEFECTS NOT "OUT OF SIGHT, OUT OF MIND"

Elizabeth Mathieson, Edmund Medley, and John Burton, Exponent Failure Analysis

A State highway-widening project in an agricultural community included installation of a storm-drain system also designed to receive overflow industrial wastewater from a tomato processing plant. Soon after the roadway was paved, a pump failure on the industrial wastewater line was followed by: 1) overflow from the wastewater line into the new 4-ft-diameter storm drain, 2) formation of sinkholes in the roadway, 3) filing of lawsuits and insurance claims, and 4) retention of the authors. During the overflow…

(Continued on Page 3 – Mathieson et al.)

VARIATIONS IN THE GEOMECHANICAL ADVANTAGES OF TORTUOUS FAILURE SURFACES IN BIMROCKS (BLOCK-IN-MATRIX ROCKS)

Edmund Medley, Exponent Failure Analysis Associates

The bimrock (block-in-matrix) fabric is ubiquitous in a broad spectrum of geological mixtures. Geologically complex mixtures of strong blocks of rock embedded in soil-like matrices (such as mélanges, fault rocks and glacial tills) possess considerable spacial, lithological, and mechanical variability; thus, characterization, design and construction in these materials are daunting tasks. Engineering geologists and geotechnical engineers often make the simplifying assumption that the mechanical behavior of rock/soil mixtures is adequately represented by the properties of the weak matrix.…

(Continued on Page 3 - Medley)

THE ENGINEERING GEOLOGY SITE CHARACTERIZATION AS THE CORE FUNCTION OF ENGINEERING GEOLOGY PRACTICE

Robert E. Tepel

The core function of a learned profession is a coherent set of activities leading to a characteristic work product based on the unique collection of knowledge, skills, and abilities (expertise) held by members of the profession (Author's personal concept). The core function is not the only function of a profession, but it is a primary, characteristic, and definitive function. Because it is based on expertise unique to the profession, the core function and its work product are unique to a profession. The core function…

(Continued on Page 3 - Tepel)

The AEG San Francisco Section Newsletter is a monthly publication of the San Francisco Section of the AEG.

For more information, visit www.aegsf.org.

Submittals:
Deadline is the 20th of each month for the following issue. Contact Maile Smith by email (newsletter_editor@aegsf.org) for submittal. All submittals are subject to editing for space considerations. Employment notices are free if brief.

Address changes:
Please submit to Section Secretary, Janine Weber Band (secretary@aegsf.org).

CHAIR'S MESSAGE

This is it – my final Chair's Message. Two eventful, memorable years have flown by. Two years ago, the long-awaited "Engineering Geology Practices in Northern California" volume was published and, during the past two years, the Section has sold over two-thirds of its inventory. The Section put on a fabulous "Seismic Hazard of the Range Front Thrust Faults" field trip last March and assembled a fantastic accompanying guidebook (thanks to Drew Kennedy, Chris Hitchcock, Ted Sayre, and Cotton, Shires and Associates). Many of our Section members attended and/or presented talks and posters at the Annual Meetings in Reno and Vail.

Attendance at Section meetings increased about 35% in the 2002-2003 AEG year; attendance has increased even more during the past year. We continued to rotate restaurants for our meetings and added a San Jose venue (sorry Frank!). The traditions of Student Night in March and the joint AEG/ASCE meeting in November continue and we have started a new tradition of joint AEG/CCGO meetings and CCGO fundraisers in May. This month we are trying something new – an Annual Meeting preview. Several speakers who are presenting at the Annual Meeting in Dearborn, Michigan will be giving dress rehearsals of their talks at the Section meeting.

It has been a very busy and rewarding two years. I have been active with the Section for six years now (2 years as Secretary, 1.5 years as membership chair, 2 years as Treasurer, and 2 years as Chair) and I have truly enjoyed being involved. I have been especially grateful every time someone sent me an email, called, or approached me at a meeting to say "thanks" for my efforts – I really appreciate it!

I have more people to thank for their time, efforts, energy, and support than I can possibly recall. My fellow Section Officers and Committee Chairs have been great (special thanks to Pat Drumm for always getting back to me right away and offering insight and assistance with just about everything, and to Bill Godwin for doing an extra great job with our publications). Thanks to Peter Anderson at Pacific Geotechnical Engineering for supporting my AEG involvement and letting me use company resources and storage space for AEG business. Thanks to Kris Friebel at Pacific Geotechnical Engineering for answering countless AEG phone calls, collecting faxes, and tallying many meeting reservations - she went out of her way to help out on many occasions. Thank you to Bob Tepel and John Williams for being my sounding boards and for their endless support of our organization and our profession. Finally, thanks to all of the Section members for continuing to support AEG.

I am ready to fill my newly acquired free time with many projects and obligations that have taken a backseat to AEG. I'm also looking forward to riding my horses a bit and taking my dogs to a few more agility trials (and hopefully bringing home some ribbons and titles!). I will be representing the Section at the Board of Directors meeting in Dearborn and I will continue to attend Section meetings and participate in AEG activities. I am leaving the Section in the hands of very capable and enthusiastic Section Officers and Committee Chairs (some continuing, some new). I look forward to many, many years of being a member of the best AEG Section!

Warm regards,
Corinne
Chair, AEG San Francisco Section

SEPTEMBER SECTION MEETING DETAILS

The September Section Meeting will be held at Spenger's Fresh Fish Grotto at 1919 Fourth Street in Berkeley, California (phone: 510-845-7771).

Directions

From 80 West (driving towards the Bay Bridge) - Take the University Avenue exit at the Berkeley Marina. Turn right at University, driving east. Turn left at 6th Street. Turn left at Hearst (1 block). Turn left at 4th Street.

From 80 East (driving towards Sacramento) - Take the University Avenue exit. Follow the signs for Frontage Road (stay to the right). Turn right at Hearst. Turn right at 4th Street.

Reservations must be faxed to Chris Hundemer by noon on Friday, September 10th.

Thank You!

Gregg Drilling & Testing, Inc.

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SPONSORSHIP

Sponsor a Section Meeting or become a Section Corporate Sponsor! Show support for an individual presentation or a specific meeting, or donate to the Section and receive free advertisement each month, recognition at Section Meetings, and more!

Contact Corinne Stewart at chair@aegsf.org for more information on sponsorship.

SPEAKER ABSTRACTS

(Kresse – Continued from Page 1)

…disseminated, the cries begin from both professions. After struggling for years to try to reach agreement between the two Boards, a legal challenge appeared. It was decreed that such an agreement was not possible because only the legislature could make laws, and such an agreement was tantamount to law-making.

California also licenses geophysicists. Don't try to make this professional split; if we can't do engineers and geologists, we sure can't do geologists and geophysicists.

Some engineering geologists, particularly younger practitioners, are performing work traditionally done by civil engineers. Of course, the opposite is also true. However, the more established engineering profession with their much greater numbers could easily overwhelm engineering geologists, if they so chose.

Engineering geologists collaborate, thus producing an improved work product, and hopefully peace between the professions.

(Mathieson et al. – Continued from Page 1)

… incident, the greatest water pressures were only 59-70% of the design pressures for the new storm-drain system. Indeed, the industrial wastewater line itself had experienced greater water pressures during prior back-up events, with no reported sinkholes. After review of documents, photographs, and sewer videos; interviews with City officials; and a confined-space inspection of part of the storm drain, we concluded that the sinkholes developed because of construction defects in the storm-drain system and no damage would have resulted from the overflow incident if the system had been installed as designed. Construction defects included out-of-grade pipe segments and manholes, gaps and hanging gaskets at pipe joints, poor pipe bedding, and inadequately compacted backfill. During the overflow incident, water exfiltrated into the soil from the industrial wastewater line and from open joints in the new storm drain. Hydro compaction occurred in poorly compacted backfill around the pipe. Then, as the soil drained into the emptying pipe, backfill soil eroded into the new pipe through the leaky joints. The resulting sinkholes were clear evidence of the consequences of underground construction defects.

(Medley – Continued from Page 1)

…But it has been well demonstrated that blocks do influence the mechanical behavior of mélanges and other rock/soil mixtures: failure surfaces generated within the weaker matrix must negotiate the boundaries of stronger blocks, creating tortuous failure paths, which has positive geomechanical effects. As block proportions increase, tortuosity increases and, in turn, so does the length and shear resistance of the shear surfaces. By the same token, well-graded distributions of blocks tend to increase tortuosity more than uniform distributions. Using conventional analytical methods (such as PCSTABL), it can be shown that the slope stability of rock/soil mixtures (as indicated by the Factor of Safety) increases with tortuosity due to the variations of block size distributions an volumetric block proportions.

(Tepel – Continued from Page 1)

…generally supports or influences all of the activities and work products within the ambit of the profession.

One way to think of the core function is to hypothesize collecting a large number of members of a profession and asking them to develop a consensus answer to the question: What is the essential characteristic function of your profession, the set of tasks that leads to a work product that defines your profession's most important contribution to human endeavor?

Unique among the geologic professions, engineering geology defines the connections and consequences between people and their activities on the one hand with the land and its geology on the other. Engineering geologists evaluate the geologic consequences of past on-site and off-site interactions between people and their use and misuse of the land. Engineering geologists contribute to correcting past errors to restore the land for future use. They predict future interactions between the geology of the land and proposed uses of the land by people.

Fundamentally, engineering geology practice requires the determination and evaluation of geologic factors and conditions that affect the design, construction, performance, or utilization of a project (fixed work) or the utilization of a site or region, taking into account both natural and human-induced conditions in the geologic environment.

Site characterization, in the context of fundamental engineering geology practice, is a geologic investigative and evaluative process that produces substantiated and

scientifically valid geologic and related data on which the geologist bases conclusions, recommendations, and expert opinion, either general or project-specific, regarding geologic conditions and processes that affect the design, construction, performance, or utilization of a project (fixed work) or the utilization of a site or region, taking into account both natural and human-induced conditions in the geologic environment. While there are many necessary ancillary functions, clearly the engineering geology site characterization is at the heart of engineering geology practice.

The engineering geology site characterization is built upon the unique expertise of the professional engineering geologist and it supports our concepts of the fundamental contributions that the profession makes to our human community. It is the vehicle that delivers the expertise of the engineering geologist to the client or employer as a primary beneficiary and to other stakeholders as secondary beneficiaries of engineering geology practice. The Engineering Geology Site Characterization is the ideal activity-work product combination for engineering geologists to adopt as their profession's reason for being — its core function.

AUGUST SECTION MEETING NOTES

The August section meeting presentation was given by Chris Hitchcock of William Lettis and Associates, and was entitled Recent Geomorphic Investigations of Thrust Faults Bounding Santa Clara Valley. Mr. Hitchcock's research of the faults has been ongoing and he is interested in organizing the sum of our knowledge concerning them. The talk focused on the various considerations given to assessing the seismic hazard of thrust faults bounding Santa Clara Valley, in contrast with those used for the more prominent strike-slip faults in the region. Faults discussed included the Monta Vista, Shannon, and Cascade faults in the west valley, and the Quimby, Evergreen, and Silver Creek faults in the east valley. Recent investigations that have increased our knowledge and understanding of the faults were highlighted.

Thrust faults have distinctly different geomorphic and paleoseismic expression relative to strike-slip faults and thus require different considerations when assessing their potential seismic hazard for zoning purposes. For example, will seismic activity have a broad ranging effect or more localized, and for the above faults specifically, are they independent seismic sources. To answer the latter, Mr. Hitchcock indicates that understanding the driving forces is important. Rather than plate convergence or block rotation, it is thought that activity on the faults is largely driven by along-strike variations in the geometry (e.g., restraining bends and/or step-overs) and associated stress fields of the nearby San Andreas, Hayward and Calaveras faults. The potential hazards posed by activity on the thrust faults are liquefaction, surface rupture, and ground shaking.

Mr. Hitchcock discussed his detailed work on faults in the western Santa Clara Valley, which revealed that the potentially active Monta Vista fault has a slip-rate of 0.4 mm/yr and that there may be an active thrust fault further east, named the Cascade fault. Data analyzed included detailed mapping of erosional features within terraces in the hanging-walls and associated deposition of fans in the footwalls. Fault locations were further constrained by construction of stream profiles across the fault zones using historic, pre-development topographic maps. He also noted paleoseismic data from others that indicates Holocene events on a trace of the Shannon fault (the Blossom Hill fault) with displacements on the order of tens of centimeters, possibly suggesting an independent seismic source.

Mr. Hitchcock also discussed his work on thrust faults in the eastern Santa Clara Valley. He suggested that activity on these faults is generated by a restraining stepover between the Calaveras fault and the southern terminus of the Hayward fault. In this area, Mission Peak is being uplifted at a rate of approximately 1.5 mm/yr as a result of the stepover geometry. The Quimby and Evergreen faults may have accommodated some of this uplift. Structural sections through this area indicate that the faults merge with the Calaveras at a depth of about 5 km. Offset, morphology, and displacement character of these faults vary along-strike in a complicated manner and though there has been little opportunity to definitively show Holocene activity of these faults, Mr. Hitchcock's observation of localized exposures and geomorphic features suggest relatively recent activity. The Silver Creek fault is an enigmatic member of the east valley faults in that fundamental properties such as whether it is classified as a strike-slip or a thrust, and even whether it dips east or west are poorly understood. Therefore, it may even represent the eastern extent faults on the west side of the valley.

To conclude, Mr. Hitchcock noted the contrast in origin of the faults on either side of the valley and that faults on the west side show evidence of possibly being independent seismic sources, while faults on the east side of the valley probably do not extend to seismogenic depths. He emphasized that determining whether or not any of the faults are independent seismic sources is the most important question for understanding the hazard posed by these faults. His study of 1952 Kern County earthquake along a thrust fault (White Wolf) revealed that the surface rupture damage was limited relative to damage caused by liquefaction and ground shaking. This makes zoning for such hazards difficult because the damage can be spread over a large area.

Ron S. Rubin *for*
AEG San Francisco Section

MEMBER UPDATES AND OTHER NEWS

CALIFORNIA PERFORMANCE REVIEW

The California Sections of AEG through your Sections Chairs, Legislation Committee Members, and our Lobbyist in Sacramento, have reviewed the August 3, 2004 California Performance Review (CPR), specifically

the proposal to combine the current Board of Geologists and Geophysicists (BGG) with the State Mining and Geology Board (SMGB) and placing a large mix of similar sounding professionals within the Department of Natural Resources, Division of Land Management. Your representatives have reviewed documents and held numerous conferences discussing the pros and cons of the Governor's proposal.

AEG respects the efforts the current State administration has taken in proposing fundamental changes in our government but AEG apposes the proposed changes to the State structure at this time because of a number of concerns.

- AEG is concerned with the future status of our profession and the input our profession will have on future laws, codes and regulations governing our field. All other design-level professionals perceived as critical to public safety such as architects, engineers, land surveyors, etc. will be within the Department of Public Safety. Our work is on behalf of the public's safety, and therefore should be included within the Department of Public Safety.
- The SMGB primarily represents the interests of the State with respect to mining operations and residual hazards associated with those functions. The BGG, on the other hand, examines and provides licenses for professional geologists who typically serve the public at large and also provides enforcement actions to individuals who do not perform their services in a professional manner. Because of these fundamental differences, we are concerned that the public may not be adequately or fairly served in this new merger.
- We are concerned that there is no definitive legal language at this time to assuage our concerns with respect to the merger. AEG would like to reserve the right to review these fine points and add critical comment to the proposed changes. Unequivocally, AEG would have serious doubts about supporting such sweeping changes without our input.

Public awareness and public safety may be at risk under the proposed format along with the respect and status of our necessary profession. Therefore AEG is apposed to changes outlined in the CPR and plans to present this open at a public hearing in Fresno on September 17, 2004.

Let us know your thoughts. Please provide any comments to Corinne Stewart (chair@aegsf.org) no later than Wednesday, September 8, 2004.

OTHER MEETING ANNOUNCEMENTS

AEG Annual Meeting

Plan to attend the 2004 AEG Annual Meeting "at the Core of the Shores!" in Dearborn, Michigan, September 25th through October 3rd!

If you have not already received your Annual Meeting's "Program with Abstracts," you should be receiving it this week. You may register on our web page (www.aegweb.org) or you may fax your form to 951-776-1383.

If you have any questions, do not hesitate to contact either Lon Cooper, General Chairman (lmcooper52@comcast.net) or Julie Keaton (aegjuliek@aol.com).

For more information on the annual meeting, visit www.aegweb.org.

Thank You to the Corporate Sponsors of the AEG San Francisco Section!

Applied Geomechanics – Santa Cruz

Exponent Failure Analysis – Menlo Park

Upp Geotechnology – San Jose

GRA Annual Meeting

Managing Aquifers for Sustainability - Protection, Restoration, Replenishment, and Water Reuse

Groundwater Resources Association's 13th Annual Meeting will be held September 23-24, 2004 at the Doubletree Sonoma County Wine Country Hotel in Rohnert Park. This meeting addresses the important issues of groundwater sustainability, aquifer protection, water recharge and water reuse. Cooperating organizations include the U.S. Geological Survey, Water Education Foundation, the International Association of Hydrogeologists, Association of California Water Agencies, California Groundwater Association, and the Natural Resources Section of the California State Bar.

Pre-meeting activities on September 22 include:

- Field Trip: Sonoma County Water Resources - http://www.grac.org/tour
- Golf Tournament - http://www.grac.org/golf
- Geology of Wines/Wine-Tasting Dinner - http://www.grac.org/wine

Parallel track sessions include:

- Managing Aquifers for Sustainability
- Groundwater Resource Management
- Quantitative and Predictive Tools to Assess Groundwater Contamination Management Strategies
- Tools and Technologies for Groundwater Resource Assessment and Protection
- Strategies and Decision Processes for Groundwater Quality Management
- Challenges of a Finite Resource - Groundwater Use and Reclaimed Water Reuse
- Groundwater Contaminants Today and Tomorrow
- Long-Term Strategies to Assess and Manage Non-Point Sources and Restore Groundwater Quality

- Groundwater Legislative, Regulatory, and Policy Issues

For the full Annual Meeting agenda, and information regarding registration and co-sponsor opportunities, please visit http://www.grac.org/mtg

AEG San Francisco Section Thanks our Academic Sponsor!

San Jose State University

San Jose, California

SHORT COURSES

NATURAL ATTENUATION, RISK ASSESSMENT, AND RISK-BASED CORRECTIVE ACTION

Waterloo Hydrogeologic, Inc., in association with the National Ground Water Association, is offering a short course on Natural Attenuation, Risk Assessment, And Risk-Based Corrective Action: analysis and decision making through applied ground water modeling.

The course will be held September 20-24, 2004 at the Shelter Pointe Hotel in San Diego, California. The fee is $1,325 for NGWA members and $1,475 for non-members.

This course will comprehensively review and apply the major software packages that have applications in risk assessment, natural attenuation, and risk-based corrective action (RBCA). The theory underlying the software will be taught by the leading instructors in the field. The data needs for the models and the field methods to obtain them will also be covered. Practical applications will be emphasized, with the software treated as a technical tool to be applied with professional analysis, interpretation and judgment.

The recognized standard multi-dimensional numerical and analytical models will be used in the hands-on computer laboratory sessions of the course to solve problems based on actual consulting case histories. Model applicability and limitations in analysis and decision making for natural attenuation and risk assessment problems will be shown. A major goal of the course program is obtaining a working knowledge of each software package and applying it in a hands-on computer session to obtain practical results that you would use on a typical project.

For more information or to register for the course, visit www.waterloohydrogeologic.com, or contact info@ waterloohydrogeologic.com or 519-746-1798, ext. 233.

INVESTIGATION & REMEDIATION OF DRY CLEANER RELEASE SITES

The Groundwater Resources Association of California will be hosting a one-day technical and policy symposium focusing upon dry cleaner impacts to groundwater and indoor air. The event will further examine tissues profiled at GRA's inaugural symposium by the same title held on April 7, 2004 in Sacramento. This event will feature new speakers, topics, and case studies. This symposium will focus on technologies for rapid and effective screening and subsurface characterization of former and current operations, forensic techniques for identifying contributors to PCE contamination, and a wide variety of innovative technologies for the remediation of PCE releases from dry cleaners.

The 13th Symposium in the series on groundwater contaminants will take place on November 10, 2004 at the Radisson Hotel in Newport Beach, California. Abstracts for oral and poster presentations are now being solicited, and are limited to a maximum of 200 words. Please submit abstract and submittal form by e-mail to Lorett Kinnicutt at lkinnicutt@nossaman.com no later than September 10, 2004.

A symposium committee is now forming. We are looking for people knowledgeable in the area of dry cleaner releases who have time and organizational skills to contribute to the effort of organizing this event, particularly those residing and working in southern California. To volunteer, please e-mail Dr. Alistaire Callender, GRA Dry Cleaning Symposium Co-Chair at acallender@arcadis-us.com.

For additional information please contact the symposium co-chairs, Alistaire Callender (714-278-0992, ext. 3015) or Jim Carter (310-618-8889, ext. 105).

For Short Course information and submittals, please contact:

Ernest Solomon
Short Course Chair, AEG San Francisco Section

FIELD TRIPS

Geology of the San Andreas fault in the Santa Cruz Mountains

The Pacific Section, Society for Sedimentary Geology (SEPM) Fall 2004 field trip (Oct. 8-10) will focus on the San Andreas Fault through the Santa Cruz Mountains. Some areas to be visited experienced surface rupture from the 1906 and 1989 earthquakes. The trip is intended to highlight landscape features associated with the active fault system. In addition stops were chosen to examine rocks and terranes typical of both sides of the fault; many of the locations are of highly scenic character associated with a variety of mountain habitats ranging from grasslands, chaparral, oak and evergreen forests, and redwoods. Interested novices and students of geology, and professionals are all urged to sign up for the field trip. Lively discussion and arm waving are expected! Field guides will be available for registered participants.

Participants should be prepared to provide their own meals, particularly breakfast, lunch and snacks. A variety of restaurants and coffee shops are available in downtown Saratoga approximately 3 miles from the Sanborn Park camping area.

Plan on carpooling! Vans are encouraged (no buses). Day use fees for the county parks is $4/vehicle. Although ample parking is available at most stops, there are no guarantees. Registration fee is $22 for PS-SEPM members, $25 for non-members, and $10 for students. A campsite at Sanborn Park for two nights is $22.

For more information, contact Phil Stoffer at pstoffer@usgs.gov or 650-329-5028, or mail check made out to PS-SEPM by no later than September 25, 2004 to John Cooper, Department of Geological Sciences, California State University, Fullerton, Fullerton CA 92834-6850.

Seismic Hazard of the Range Front Thrust Faults Guidebook

The guidebook from the sold-out March 2004 Range Front Thrust Fault Field Trip is now available on the section website for downloading. The PDF version of the guidebook is approximately 49 megabytes, and can be opened and printed using Acrobat Reader. The guidebook contains an overview paper, directions and mileage log, 10 technical papers, and many color photos and illustrations. The guidebook is a must-have reference for engineering geologists working along the northeastern range front of the Santa Cruz Mountains between Los Gatos and Daly City. If you would like to purchase a printed, spiral-bound copy of the guidebook, we are currently taking orders. The book sells for $30 ($5 more if you would like it shipped to you). To order a guidebook, contact our Publications Chair, Bill Godwin at publications_chair@aegsf.org or call Corinne Stewart at 408-778-2818.

PGS and NCGS Guidebooks

The Peninsula Geological Society has posted guidebooks from their recent field trips, including Panoche and Tumey Hills (2004), White-Inyo Range (2002), Mount Shasta and the Klamath Mountains (2001), Big Sur (2000), and the Northern Sierra Nevada (1982). The guidebooks can be downloaded from www.diggles.com/pgs/.

The Northern California Geological Society has posted photos and comprehensive field trip reviews for many of their recent field trips, including Sierra Buttes (2002), Sixteen-to-One Mine (2003), San Francisco Bay Model (2003), Northbrae Rhyolite, (2003), Pacheco Pass - Franciscan Metasedimentary Section (2003), Diablo-Antiform – Diablo Range Intersection (2003), Geology of the Right Stepover Region – Rogers Creek and Maacama Faults (2003), Clear Lake Volcanics (2003), and Pt. Reyes Area (2003). The NCGS plans to post the guidebook for each field trip at a later date. Visit www.ncgeolsoc.org for more information.

Upcoming AEG Field Trips

North Valley Chapter AEG Field Trip 2004
Geology of Lassen Volcanic National Park
October 2 & 3, 2004

In May 1914 Lassen Peak burst into eruption and the climax of this episode took place in 1915, when the peak blew an enormous mushroom cloud some seven miles into the stratosphere. The reawakening of this volcano, which began as a vent on a larger dormant volcano known as Mt. Tehama, profoundly altered the surrounding landscape. The park, created in 1916, is a compact laboratory of volcanic phenomena and associated thermal features (steam vents, boil mud pots, and acid lakes) that provides us with a great glimpse of active volcanism and related geologic hazards. Aside from a geologic paradise, Lassen Park offers spectacular and pristine natural beauty in an uncrowded environment.

You are invited to experience the spectacular geology of Lassen Volcanic National Park up close and personal with fellow geologists. The fieldtrip will be led by Dr. Michael Clynne of the USGS Volcano Hazards team, who will show us and explain Late Quaternary volcanism, glaciation, and volcanic hazards in and around the park. Additional speakers will present information regarding engineering geologic evaluations for new developments within the park.

Dr. Clynne received his Ph.D from UC Santa Cruz and has been with the USGS Volcano Hazards Team since 1980. He is currently the Project Chief for geologic mapping, acquisition and interpretation of stratigraphic, geochemical, and geochronological data at Mount St. Helens. From 1980 to 1998, Dr. Clynne served as Project Chief performing similar duties at Lassen that culminated in much of our current understanding of the geologic hazards and volcanology of Lassen Volcanic National Park. We are truly fortunate that Dr. Clynne is available to lead much of this fieldtrip.

Trip Details: The field trip will be limited to the first 60 people that sign up. The cost per person for the trip is $75 with a student rate of $35 (with proof of enrollment). Priority will be based on the time stamped fax form or postmark of the mailed envelope. Included with the field trip will be the following:

- A Field Trip Guide;
- Box lunch (Saturday);
- Free nearby group camping sites (October 1 & 2);
- A Santa Maria-style barbeque dinner of tri-tip or chicken (Saturday evening at the group camping site); and,
- Free passes into the park for October 2nd and 3rd.

The guided trip itinerary on Saturday includes viewing and presentations regarding large landslides, glaciation, and flows at Brokeoff Mountain; glaciation, boiling fumaroles, and acid-water at the Bumpass Hell geothermal complex; lava flows, debris and mud avalanches from the 1915 eruptions at the Devastated Area; huge rockfall avalanches at Chaos Crags; and Holocene faulting along the Hat Creek Fault.

Sunday is an open day with free access to the park to enjoy many of the other wonderful areas not visited during the guided fieldtrip. Sunrise and views from Lassen Peak or Brokeoff Mountain are incredible and via short hikes, you can visit some of the many alpine lakes, meadows, and waterfalls within the park. Also, a short distance outside the park, you can visit the lava tube at Subway Cave, fish for wild trout at Hat Creek, or see the incredible Burney Falls.

If you are interested, please complete the attached form and fax it then mail it along with your check made out to AEG North Valley Chapter, as noted on the form. Checks need to be received by September 10, 2004. Directions and additional information will be provided to those who sign up.

If you have any questions, please contact John Finnigsmier (jfinnigsmier@kleinfelder.com; 530-222-7203), Jim Bianchin (jbianchin@currygroup.com; 530-223-1277), or Don Lindsay (dlindsay@currygroup.com; 530-223-1277).

Upcoming NCGS Field Trips

Fall 2004 – East San Jose Landslide; Tectonically Driven?, Northern California Geological Society, led by Sands Figuers, Norfleet Consultants

Fall 2004 – Devil's Slide, Northern California Geological Society, led by Carl Wentworth, USGS, and others

For Field Trip information and submittals, please contact:

Drew Kennedy
Field Trip Chair, AEG San Francisco Section

Maile Smith
c/o Weiss Associates
350 East Middlefield Road
Mountain View, California 94043

AEG San Francisco Section – September Newsletter
Monthly Section Meeting – Tuesday, September 14th
Spenger's – Berkeley

CHECK OUT THE AEG SF SECTION WEBSITE AT WWW.AEGSF.ORG!

RESERVATION FORM

AEG SF Dinner Meeting – September 14, 2004 – 6:00 pm
Spenger's Fresh Fish Grotto – Berkeley
Reservation Deadline: 12:00 PM, FRIDAY, SEPTEMBER 10th
Fax Reservation Form to Chris Hundemer, c/o Upp Geotechnology (408-866-9436)
Do not mail or fax payment – Check or Cash at the door – Make checks payable to AEG SF SECTION

Dinner and Meeting Cost: $30 – members $15 – student members $35 – non-members

No shows and late cancellations will be charged!

NAME _____ COMPANY _____

TELEPHONE NO. _____ NO. OF PEOPLE _____

PLEASE CHOOSE ENTREÉ(S): Fish ☐ Chicken ☐ Vegetarian ☐

PERMANENT RESERVATION FORM

AEG San Francisco Section monthly dinner meetings are typically the 2nd Tuesday of each month.
I will attend and make payment for each meeting. If I am unable to attend, I agree to fax or mail a cancellation notice to Chris Hundemer (fax: 408-866-9436) by NOON the Friday before the meeting or I will be charged for the meeting.

NAME _____ COMPANY _____

TELEPHONE NO. _____ NO. OF PEOPLE _____

BILLING ADDRESS _____

SIGNATURE _____ DATE _____ ENTRÉE _____

Registration Form
Pacific Section SEPM Fall Field Trip 2004
October 9—10, San Andreas Fault, Santa Cruz Mountains

Please fill out one form **per person**. **Required** registration fee includes field guidebook and basic charge for students and non-students. Camping option available for additional price.

Name _____

Address _____

_____

Phone: _____; e-mail _____

Registration fee (**required**):

Member PS-SEPM/non-student: **$22.00** _____

Non-member PS-SEPM/non-student: **$25.00** _____

Student: **$10.00** _____

Campsite at Sanborn Park: 2 nights: **$22.00** _____
[Friday night (10/8) and Saturday night (10/9)]
To register to camp, first contact Phil Stoffer at:
pstoffer@usgs.gov, or call 650-329-5028
Limited space is available.

Total: Make **check** (no cash or credit cards) payable to: PS-SEPM _____

Mail this form and check made out to PS-SEPM **by no later than September 25**, 2004

Mail to: John Cooper
Department of Geological Sciences
California State University, Fullerton
Fullerton CA 92834-6850

Be sure to check PS-SEPM website and /or Newsletter for field trip details