



SAN DIEGO ASSOCIATION OF GEOLOGISTS

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<http://www.znet.com/~sdag>

MEETING ANNOUNCEMENT

Wednesday, March 17, 1999 -- *HAPPY ST. PATRICK'S DAY!*

Place: The Brigantine Restaurant
9350 Fuerte Dr.
in La Mesa
Phone: (619) 465-1935

Time: 6:00 - Social Hour
7:00 - Dinner
8:00 - Program

Dinner: Buffet-style: tostada bar, taquitos, flautas, beef kabobs, vegetables and fruit.

Cost: \$ 20.00 per person (Children under 12 and Students with ID: \$ 10.00)

Reservations: Call the SDAG Reservation Line at Hargis + Associates, Inc.: (619) 454-0165, Ext. 190, before 5:00 pm Monday, March 15. Or, make your reservation online through the SDAG website (see above). Contact Barbara Birnbaum at Bechtel with any questions.

Program: Presentations by SDAG Student Scholarship recipients

Jennifer Lewis, SDSU, Senior Thesis

CRUSTAL THICKNESS OF THE NORTHERN PENINSULAR RANGES, SOUTHERN CALIFORNIA, FROM TELESEISMIC RECEIVER FUNCTIONS

While gravity and seismic refraction surveys in the Peninsular Ranges Batholith (PRB) have yielded poorly constrained and conflicting crustal thickness estimates, ranging from 26 km to 43 km, Moho P-to-S conversions (Ps) identified in recordings of teleseisms have provided reliable, well-localized crustal thickness estimates. Recently, Ichinose et al. (1996) used Ps arrivals from teleseismic receiver functions at the latitude of San Diego to infer a relatively flat, deep Moho (~40 km) under the western PRB, and a steeply eastward shallowing of the Moho (~35 km to ~25 km) under the eastern PRB. We extend that study of PRB crustal thickness variations to ~100 km north, using broadband records from the ANZA and TERRAScope networks. Crustal thicknesses were estimated through analysis of teleseismic receiver functions at ten stations along a 60-km profile in the eastern PRB between the Elsinore fault zone and the eastern margin of the batholith. Observed Ps arrival times are combined with tomographic velocity models to image a northeastward thinning of the crust: the depth to the Moho at the southwestern end of the profile is estimated to be ~37 km, shallowing to ~27 km at the northeastern end. Moho topography does not mirror surface topography. The receiver function results show that the shallowest Moho exists beneath the higher elevations in the eastern PRB. Future work will be directed at establishing the mechanism and duration of this Moho configuration.

Jennifer graduated from SDSU with a B.S. in Geophysics in May 1998 and is currently working on her Master's under Dr. Steven Day. For her Master's, she is revising her senior thesis with new and exciting data, and much of her current data will be presented during this program. In short, Jennifer specializes in using seismological data to infer deep crustal structure.

Isabelle Sacramento Grilo, SDSU Graduate Thesis

THE CHEMOSTRATIGRAPHY OF BEDDED CHERT IN THE PEALE FORMATION OF THE NORTHERN SIERRA NEVADA, CALIFORNIA: IMPLICATIONS FOR THE TRANSITION FROM THE ANTLER TO THE SONOMAN OROGENIC EVENTS

Near Bowman Lake, the greenschist facies Carboniferous Peale chert forms a moderately E-dipping, NW-trending homocline that is the record of the transition from the Devonian and Early Mississippian Antler Orogeny to the Permian and Triassic Sonoman Orogeny. In ascending stratigraphic order it consists of the ~105 m thick black and white lithofacies, the ~16 m thick mottled lithofacies, and the ~30 m zebra stripe lithofacies. Data from chemical analyses suggest that the composition of the lower black and white lithofacies was strongly influenced by terrigenous matter. It is likely that the source of this material was the Antler orogenic highlands, a positive palaeogeographic feature rimming the margin of southwestern North America during the Mississippian. In contrast, a stronger biogenic input is evident during deposition of the mottled and upper part of the black and white lithofacies. This relationship may indicate that the Antler highlands were worn down to below average storm wave base. Following deposition of the mottled facies, an increase in the abundance of terrigenous matter in the zebra stripe facies represents a harbinger to the Sonoman orogeny. Isabelle will present an overview of the chemical analyses and results from her thesis. Copies of her complete abstract will be available at the meeting.

Isabelle has just finished her graduate studies at San Diego State University in Geochemistry and Tectonics under advisor, Dr. Gary H. Girty. She received bachelors degrees in Geology and Environmental Studies from the University of Southern California. A native of Lisbon, Portugal, her interests are not only plate tectonics and chemical and tectonic provenance, but also neotectonics, paleoseismicity, and earthquake geology, particularly in less known areas such as the Iberian peninsula. In addition, with her interest in petroleum geology, she interned at Mobil last summer, and worked in exploration in the deepwater Gulf of Mexico. As hobbies she enjoys natural history and biology, health and nutrition, and languages. She speaks, writes, and reads four languages fluently. Isabelle is now interested in finding work here or in her home country.

UPCOMING 1999 MEETINGS:

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|-----------------------------|--|
| <u>Tues.</u> , April 20: | Steve Baumann, <i>Glamis Imperial Gold Mine</i> (joint meeting with SME)
Raintree Restaurant in Carlsbad |
| <u>Mon.</u> , May 3: | Joint meeting with South Coast Geological Society (SCGS); Topic/speaker TBA
El Adobe Restaurant in San Juan Capistrano (Amtrak option) |
| Wed., June 16: | Barbara Birnbaum, <i>Camisea Project: Field Pipeline Mapping in the Peruvian Rain Forest</i> (location TBA) |
| Wed., July 21: | Kathleen Springer, "Paleontology of the Eastside Reservoir Project"
Joint meeting with Inland Geological Society, meeting in Temecula |
| Wed., August 18: | John Peterson, <i>San Diego Water Resource Update</i>
Bali Hai restaurant on Shelter Island |
| <u>Sat.</u> , September 18: | Annual Picnic – SDAG / ASCE / SDSU Geology Alumni – Mission Bay |
| October 9-11: | SDAG Field Trip; <i>Water Resources Development in Southern California</i> |
| Wed., November 17: | Dr. Pat Abbott will talk from his new book on the geology of San Diego County:
"The Rise & Fall of San Diego." New book release and signing, location TBA |
| Wed., December 15: | Tom Deméré, <i>San Diego Natural History Museum Paleontology Update</i>
Scholarship announcements and SDAG officer elections |

SDAG NEWSLETTER:

Please submit information, announcements, ads, geo-websites, geo-jokes or suggestions to Barbara Birnbaum (SDAG Secretary), for inclusion in the next newsletter. Any news regarding upcoming events that may be of interest to the Association or news of your business can be submitted. The submittal deadline for the next SDAG newsletter is Monday, March 29, 1999.

1999 SDAG FIELD TRIP:

The 1999 field trip theme will be ***Water Resources Development Projects in Southern California***. The Field Trip Chairman and field trip volume General Editor will be this year's SDAG Vice President, Greg Cranham. The trip is tentatively scheduled for Columbus Day weekend, October 9-11, 1999. All papers relating to the geology, hydrogeology, hydrology, or engineering aspects of Southern California water resource projects are now being accepted. In addition, papers on other related topics (non site-specific, historic, current, etc.), are also welcome. A Call For Papers for this field trip volume was included in the January SDAG newsletter, and is available on-line through the SDAG website. Please contact Greg with any questions.

1999 CORPORATE SPONSORS:

We are pleased to be able to extend our most sincere **thanks** to our Corporate Sponsors for 1999! Their generosity allows us to plan the annual field trip and produce field guides, to host the SDAG/SDSU picnic on Mission Bay, support student participation at a greatly reduced price, produce this monthly newsletter, and to provide scholarship funds to local geology students. Our 1999 Corporate Sponsors are:

- AGRA Earth & Environmental
- Catlin Engineering Associates, Inc.
- Christian Wheeler Engineering
- Cotton, Shires and Associates, Inc.
- Joe Coronas
- Earth Consultants International
- Bill Elliott
- Geocon Inc.
- Geo-Tech Imagery Intl.
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- Pacific Soils Engineering, Inc.
- Southland Geotechnical Consultants
- David and Jan Steller
- Anne Sturz
- Transglobal Environmental Geochemistry (TEG)
- Zeiser Kling Consultants, Inc.
- Carole L. Ziegler

Please consider becoming a Corporate Sponsor of SDAG. In addition to monthly recognition for your contribution, you will be entitled to a free internet "link" from the SDAG Website, as well as a business-card size ad in an upcoming 1999 newsletter. We hope to list our sponsors at the front of the 1999 SDAG Field Trip Volume, and may consider small ads in that volume for an additional contribution.

ANNOUNCEMENTS:

Dues are due for 1999. Please note that you must renew only if "**exp**" appears on your address label. A 1999 membership form is attached. Please note that the annual dues have increased to \$20.00 (\$10.00 for students), effective March 1.

Last month's SDAG meeting at Qwiig's in Ocean Beach had over 60 attendees. Steve Borron's talk about the Geology of the Split Mountain Sturzstrom was interesting and well-presented, using state-of-the-art computer presentation techniques. As usual, the dinner served by Qwiig's was delicious.

The Gordon Gastil Endowed Scholarship Fund continues to seek donations of any amount. Gifts of \$ 500.00 or more will be recognized on a plaque to be placed in the remodeled Geology Building. Donations can be sent through SDAG, or contact Pia or Marie, Department of Geological Sciences, SDSU, at (619) 594-5586.

Many thanks to Carolyn Glockhoff for continuing to update and manage the SDAG website! If you haven't yet seen this excellent and useful resource, check it out at: www.znet.com/~sdag. Also, send the URLs of your favorite geology sites to Carolyn (carolion@aznet.net) for listing on the Geologic Links page. Based on the first week of 1999, the SDAG website receives an estimated **60 "hits"** per day! Way to go!

New technology called "LogGeoChem" available for review via e-mail: Geologists have envisioned for a long time of ideal relationships between wireline logs and petroleum geochemical values. A continuous recording of geochemical values would produce totals of select organic matter quantities and kerogen types and their products. Properly calibrated, such evaluations would also produce thermal maturation indicators. Using traditional logs, the "Petroleum Geochemistry using Wireline Logs" technology, also called LogGeoChem, was developed to respond to this desire. For a brief (seven minute) electronic "slide" show presentation about LogGeoChem in PowerPoint 97, contact Jim Lancaster (President of EVALUATIONS, Inc.) at 303-770-2727 or via e-mail at: loggeochem@uswest.net.

In Memorium: Mr. Jack Clare, BS 1950 University of California, Berkeley died February 15, 1999 of a heart attack. Jack worked with Argonaut Oil and Gas Consultants.

County of San Diego, Department of Environmental Health: The new Property Owner Responsibility Agreement form is now in effect, the previous Maintenance of Monitoring Wells form has been revised, and the fee for a permit extension has been raised from \$25.00 to \$30.00. These changes affect drilling and monitoring well installation and destruction. If you have any questions or would like additional information, please contact the Monitoring Well Program at (619) 338-2339.

OTHER MEETINGS, FIELD TRIPS, SHORT COURSES & EVENTS:

13th Annual San Diego State University (SDSU) Alumni Field Trip: This year's SDSU trip is scheduled for the weekend of March 19-21, to the San Felipe Hills, east of Anza-Borrego State Park. Interesting geologic features in the area include cold, bubbling gas domes, fields of concretions, ancient shorelines, and marine and terrestrial fossils. Meet at rustic campsite in San Felipe Hills: From Ocotillo Wells, take Hwy 78 east past the Blu-In to the Pole Line Road (approx. 9 miles). If coming from the east, it is approx 7 miles from the junction with Hwy 86. There will be SDSU Alumni signs. Go north on this graded dirt road approx. 2 miles and look for a wide wash & road going east. Continue up wash (east) for about a half a mile to camp. For more information (map to camp, communications info, facilities info) contact: Tony Sawyer at 1-800-HYDROGEO, or via email at tv@s@hydrogeologist.com.

Field Short Course on Volcanic Rocks – "Whole Lava Love" is a 2-day field short course in the Superstition Mountains on the recognition and differentiation of silicic lavas, nonwelded tuffs, and volcanoclastic sediments. Arizona Geological Survey geologist Charles Ferguson will teach the course, which will be offered twice this spring: March 6-7 and March 13-14. Space may still be available for both sessions. Participants are responsible for transportation to and from the site, accommodations, and meals. A \$5.00 fee (\$2.00 for students) will be charged for each participant to offset the costs of printing a guide, maps, and providing refreshments. For more information contact Charles Ferguson, Arizona Geological Survey, 416 W. Congress, #100, Tucson, Arizona 520-770-3500, fax 520-770-3505, email: geotron@aol.com.

Arizona Geological Society (AGS) Field Trip: Saturday April 17, 1999, Pinto Creek and Pinal Creek environmental and mining issues, Globe-Miami area. Trip will be held in conjunction with the Arizona Hydrological Society and AIPG, Arizona Section. More information, and a registration form, will be available at the AGS March meeting and on the AGS website at <http://www.azgs.state.az.us/ags/index.htm>. Contact Dawn Garcia (1999 VP for field trips) at (520) 544-3150 or DawnGarcia@aol.com if you have any questions.

South Coast Geological Society (SCGS): The SCGS usually meets on the first Monday of every month, in Orange County. For more information (dates, locations, speakers, membership, etc.), contact this year's SCGS President, Gwen Sharp at (714) 378-3231.

Mineral Collectors Workshop: Searles Valley, San Bernardino County. Symposium and field trips are hosted by volunteers in the Earth Science Section's Museum Mineral Group. Symposium all day Saturday March 20 at San Bernardino County Museum (cost: \$8.00, includes museum general admission). Field trips on Sunday March 21 (field trip registration: \$15.00), register for field trips at symposium Saturday. The San Bernardino County Museum is located at 2024 Orange Tree Lane, Redlands, CA 92374, or call toll-free 1-888-BIRD-EGG.

The 1999 Desert Research Symposium (and field trip!), April 23-26: The symposium begins Thursday evening April 22 with an evening lecture, and continues Friday and Saturday April 23-24 with lectures, papers, and posters at the San Bernardino County Museum in Redlands. Advance symposium registration for non-members (before April 1st) costs \$20.00. The field trip "Tracks Along the Mojave" is Sunday and Monday April 25-26, and costs \$50.00 per person, including meals. Attendance at the symposium is not required for the field trip (but you'll miss a lot of good research if you skip it!). Field trip companion volumes will be on sale at the Museum during the symposium.

For more information or a flyer (schedule, fees, directions, hotels, etc.), contact either Bob Reynolds (909) 307-2660 ext. 237 or Jennifer Reynolds (909) 387-2582, or e-mail: jreynolds@ccr.co.san-bernardino.ca.us

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Earth Science Week 1999: The annual celebration of Earth Science Week will be held October 10-16, 1999. (This is immediately following our SDAG annual field trip.) Check out the Earth Science Week website at www.earthsciweek.org for current information.

Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) will be held at the Oakland Marriott City Center on March 14-17, 1999. For information, call (303) 771-2000 or visit the Symposium's website at: www.sageep.com.

French National Geological Reserve (RÈserve gÈologique de Haute Provence): Geologic field trips and classes are being organized to a protected territory located in the southern part of France, with different universities. Trips/classes for university students are available in French and English. For information and registration, contact: Dr Myette Guiomar, Scientific Department Reserve Geologique de Haute-Provence, BP 156, 04005 Digne-les-Bains Cedex (France) Tel.: +33 (0)4.92.36.70.70 - Fax: +33 (0)4.92.36.70.71, or by email: resgeol@calvanet.calvacom.fr. Or, if you prefer, contact Babara Birnbaum (SDAG Secretary) for a copy of the email describing the classes offered.

Los Angeles Basin Geological Society (LABGS): The next LABGS meeting will be held on Thursday March 18, 1999 at the Long Beach Petroleum Club at 11:30 am. The cost is \$17.00 (\$6.00 students) for the buffet lunch. Please make your reservations with Curtis Henderson at (562) 570-3937 or by e-mailing him at cuhende@ci.long-beach.ca.us by Tuesday, March 16, 1999. The Long Beach Petroleum Club is located at 3636 Linden Ave. in Long Beach. It is just north of the 405 Freeway between Long Beach Blvd. and Atlantic Ave.

The American Association of Petroleum Geologists (AAPG), Pacific Section, will hold its annual meeting at the Embassy Suites at Monterey Bay on April 28 - May 2, 1999. The theme of this year's convention is "Monterey's Hidden Resources". See the meeting's website at <http://www.west.net/~psaapg>. For further information, contact the General Chairman, Gary Greene, at (831) 633-7264, or by e-mail: greenec@cruzio.com.

Sonora 2000 - 4th Geological Meeting on Northwestern Mexico and Adjacent Areas will be held in Hermosillo, Sonora, from March 6-8, 2000. This time several institutions are co-organizing this important event with the aim to bring together the specialists in the geology and geophysics of northwestern Mexico and adjacent regions. The organizing committee extends a warm welcome to participate in one of the many symposiums and related field trips. For a forwarded copy of a recent email describing various Sonora 2000 symposia, contact Greg Cranham (SDAG VP) or Barbara Birnbaum (SDAG Secretary).

POSITIONS AVAILABLE:

- **GEOLOGISTS & ENGINEERS** – We currently have excellent career opportunities for staff to project level geologists and engineers in our N. San Diego County office. The ideal candidates will have experience in environmental and/or engineering geology, forensic and field; and have good "people" skills. We offer excellent compensation packages for the right individuals, as well as a pleasant work office environment. We also have opportunities for: Licensed Surveyors, technicians, inspectors, designers, and CADD drafters. Fax resumé in confidence to Anthony-Taylor Consultants at (760) 738-8232; Attn. Bruce Taylor. **(Anthony-Taylor Consultants is an SDAG Corporate Sponsor)**
- **ENGINEERING GEOLOGIST** – Pacific Soils Engineering, Inc. is seeking an engineering geologist with 3-5 years experience in hillside grading. Send resume to Pacific Soils Engineering, Inc., 7715 Convoy Court, San Diego, CA 92111, or Fax (619) 560-1713. **(Pacific Soils Engineering, Inc. is an SDAG Corporate Sponsor)**
- **STAFF ENGINEERS & STAFF GEOLOGISTS** – Southern California Soil & Testing, Inc. (SCST) has positions available for experienced staff engineers and staff geologists. SCST is trying to fill 2-3 positions with geologic and geotechnical professionals with several years experience towards registration and certification. SCST offers a comprehensive compensation and benefit package, and the opportunity to work on a wide range of projects. Resumes should be forwarded in confidence to SCST, 6280 Riverdale Street, San Diego, CA 92160-0627, Attention: Steve Jensen, or fax to (619) 280-4717.
- **POSITION AVAILABLE** for a Registered Hydrogeologist with 6-8 years of experience in contaminant transport and water management. Must have some modeling experience. Location: somewhere in Los Angeles. Contact the head hunter, Fern Thomson, at Apogee (818) 655-9940. Pay scale: \$60,000-80,000/year depending on experience.

- IMMEDIATE OPENINGS for Geologists with experience in environmental remediation and UST site assessments. Candidates must be OSHA certified with extensive field experience. Excellent compensation and advancement opportunities available. Fax resumé to Aaron Bove at Onsite Environmental Staffing, a consulting firm, at: (619) 874-5587, or by phone at: (619) 503-1035.

POSITION(S) WANTED:

- STUDENT SEEKING INTERNSHIP – Tiffany Hilborn (SDAG member) will be graduating from SDSU in May with BS in Geology, and is eager to gain experience through practical applications, and is willing to donate time! If interested, please contact Tiffany Hilborn at (619) 297-1941, or via email at: thilborn@geology.sdsu.edu.

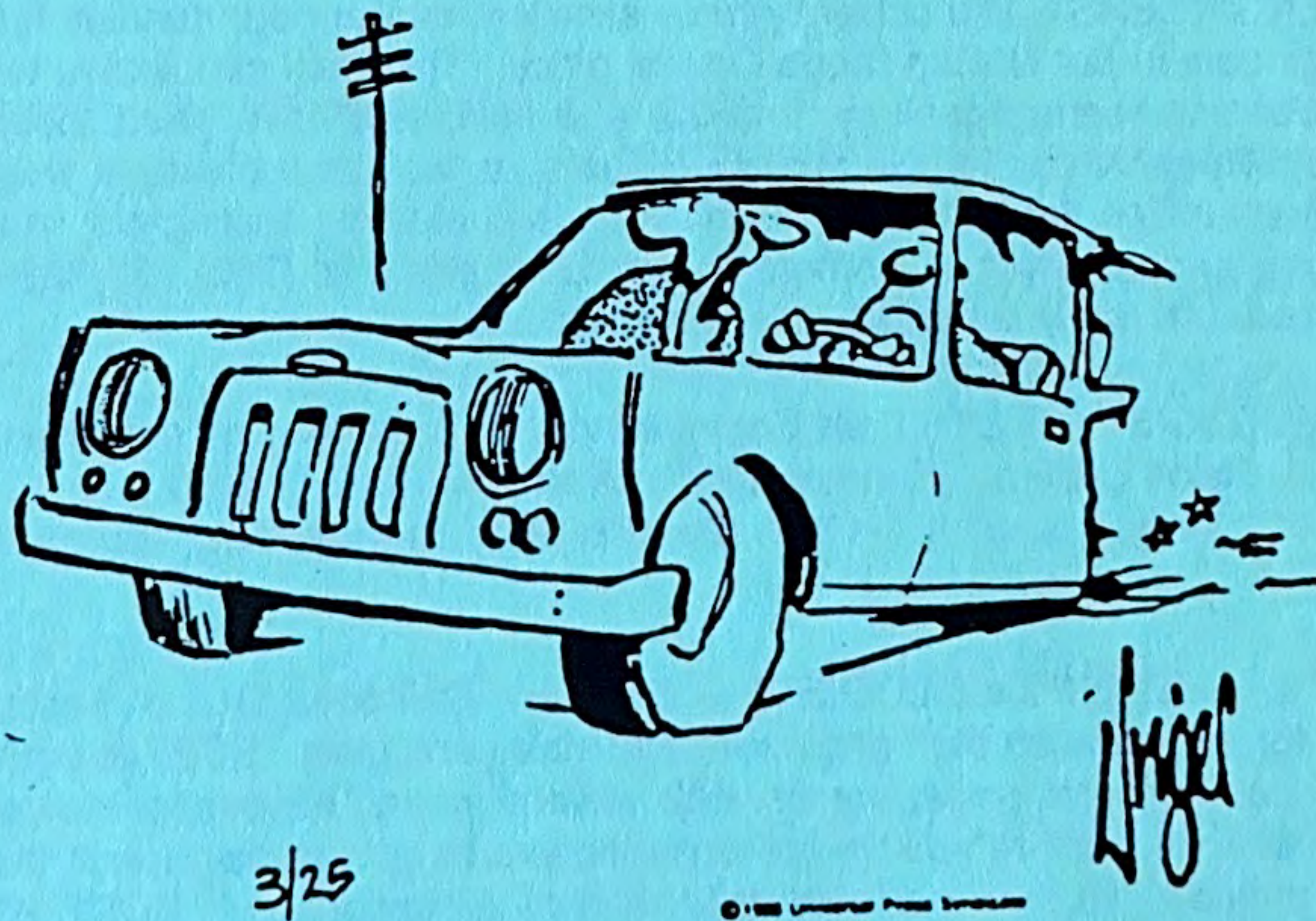
COOL WEBSITES OF THE MONTH:

The "cool" sites for this month (according to the opinion and whim of the current SDAG newsletter editor ☺) are:

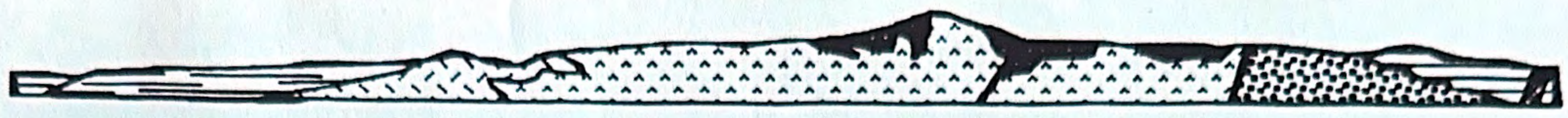
1. **San Diego Association of Geologists (SDAG)** website at: <http://www.znet.com/~sdag> That's right, we have a great website! It has current meeting and membership info, internet "hotlinks" to numerous other geology-related websites, SDAG corporate sponsors, order SDAG publication listings/order forms, photographs of SDAG field trips, online monthly dinner meeting reservation option, and much more...
2. **GeologyLink** at <http://www.geologylink.com/>. This site provides numerous links to geologic information for all levels of expertise. It seems to have a lot of useful tools and links for teachers, as well as curious non-geologists. There are direct links to the hottest topics in earth science, current worldwide earthquakes, virtual field trips, and an online geologic glossary.

Please email future candidates for SDAG cool websites of the month to Barbara Birnbaum.

HERMAN By Unger



"Only you would be stupid enough to park on the San Andreas fault!"



SAN DIEGO ASSOCIATION OF GEOLOGISTS

1999 MEMBERSHIP FORM

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Please type or print clearly, and check preferred mailing address below.

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Field(s) of Interest: _____

Phone: Home: () _____ Work: () _____

Fax: () _____ e-mail: _____

Check here if interested in newsletters via e-mail:

Dues:	_____	Student Member	\$ 5.00 (\$ 10.00 after March 1, 1999)
	_____	Regular Member	\$ 15.00 (\$ 20.00 after March 1, 1999)
	_____	Corporate Sponsor	\$100.00

New Member

Continuing Member

Date: _____

Check for change of mailing address:

Please enclose a check payable to SDAG, and mail to:

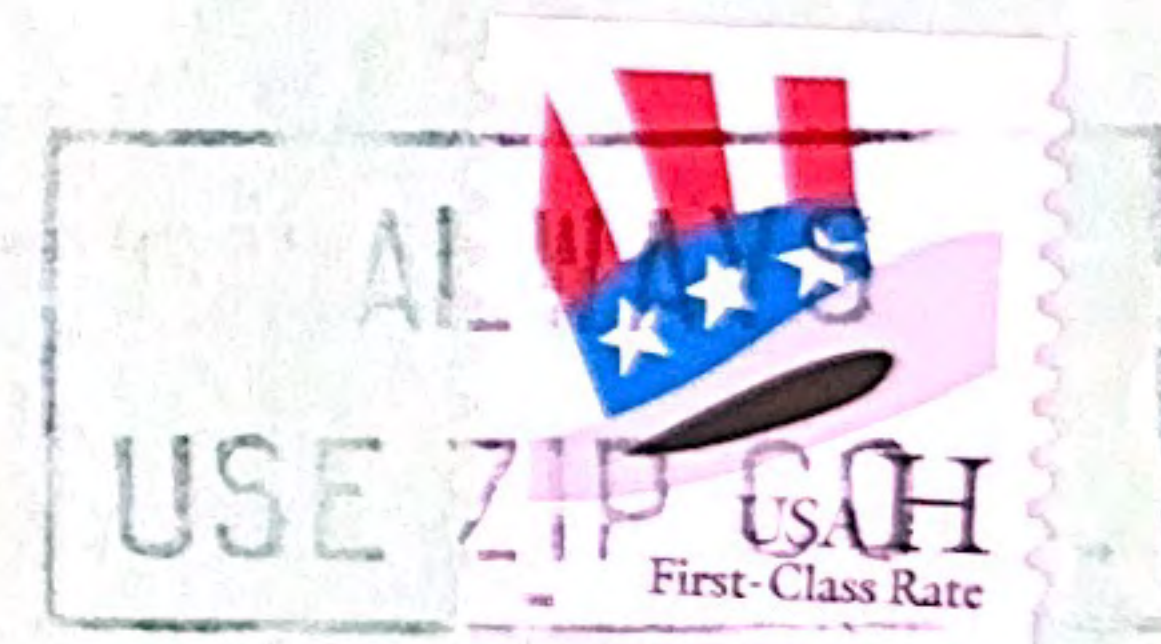
Bob Stroh
Ninyo & Moore
5710 Ruffin Road
San Diego, California 92123

*Dues may also be paid
at monthly meetings.*

Thank you!

rev. 01/99

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