



# SAN DIEGO ASSOCIATION OF GEOLOGISTS

## 1989 EXECUTIVE COMMITTEE

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## M E E T I N G   N O T I C E

WEDNESDAY JANUARY 18, 1989

**SPEAKER:** Al. M. Masry, Regional Water Quality Control Board in San Diego  
**TOPIC:** Solid Waste Assessment Test (SWAT). This law mandates that the owner/operator of a solid waste disposal site (active or inactive) must demonstrate reasonably that the site is not leaking hazardous waste. Mr. Masry will define the SWAT program and the work required to comply with the regulations.

**PLACE:** Qwiigs (Ocean Beach)  
5083 Santa Monica Avenue  
San Diego, CA 92107  
**TIME:** 6:00 - Social Hour  
7:00 - Dinner  
8:00 - Program  
**DINNER:** Fresh Fish, Baked Potato, Deluxe House Salad, Sourdough Bread, White Chocolate Gelato, Coffee or Tea.

**PRICE:** \$17.00  
**RESERVATIONS REQUIRED:**  
By Noon Monday January 16, 1989. A reservation made is a reservation paid! Phone (619) 695-2880. Please phone in your reservation ASAP to help us in our dinner reservations. Parking available below restaurant.

**NOTES:** 1) Mr. Masry received his B.S. in geology at the University of Cairo, Egypt and his M.S. in geology at the University of Texas at Dallas. He is currently working on his M.S. in Civil Engineering at the University of Arizona at Tucson. Besides geology his studies have included chemistry, hydrology and civil engineering on campuses in the United States and overseas. His groundwater experience varies from the Great Artisian Basin study in Australia to groundwater development in the Sahara Desert. Since 1987 he has been employed with the Regional Water Quality Control Board in San Diego.

2) New City of San Diego Regulations on Geologic Hazard review and Technical Guidelines for Geotechnical Reports went into effect January 1, 1989. Details on new seismic zoning will be available at the January 18, 1989 SDAG meeting. Effective immediately the City of San Diego is requesting all geotechnical reports submitted to the City for review and approval be prepared in accordance with "Technical Guidelines for Geotechnical Reports" dated October 1988, available at the maps and records section of the Engineering Department. A new position for a licensed Engineering Geologist has been approved to review reports and plans covered by these new ordinances. For details see Employment Opportunities.

**EMPLOYMENT OPPORTUNITIES:**

City of San Diego Senior Engineering Geologist. Salary \$3,804 to \$4,604 per month depending on experience. Duties include reviewing building permit applications and determining the necessity and extent of geological evaluation needed; review geological and investigative reports and evaluating proposed geologic hazard mitigation measures. Requirements include State of California Certification as an Engineering Geologist. To apply for position contact Employment Information Counter, City Admin. Building, 202 C Street, San Diego, CA 92101 (619) 236-5753

**ANNOUNCEMENTS:**

1) The San Diego State University Department of Geology Alumni Association will be holding their 3rd Annual field trip on February 24, 25 and 26, 1989 at the Red Rock Canyon State Recreation Area Campground, located on the west side of Highway 14 in eastern Kern County, approximately 25 miles northeast of Mojave, CA. The \$6.00 per night fee includes pit toilets, running water, tables and fire rings. Bring the family, your own camping gear (or trailers), food and drink. Hope to see y'all there, in spaces numbered 40 through 50. Contact Mr. Bill Elliott for further information at (619) 586-0870.

2) The February 4, 1989 Los Angeles Metro Rail Field Trip has been postponed. SDAG is attempting to re-schedule with a bus for this field trip on April 22, 1989.

3) Blackhawk Canyon Geology Field Trip has been scheduled for Saturday, January 21, 1989. See field trip flyer attached herein.

4) The 1988 SDAG Membership Directory has been completed, thanks to Catlin Engineering. Your membership directory can be picked up at the January 18, 1989 meeting. With the help of Catlin Engineering we plan to update the 1989 Membership Directory. Please add your registration number on your 1989 membership form if you would like it listed in the 1989 Membership Directory. So remember to pay your 1989 membership ASAP. All 1989 paid members will have a "1989" after their name on the address label.

5) We are currently looking for corporate sponsors for SDAG. A minimum contribution of \$100 will be required to become a corporate sponsor. The contribution will be announced in the SDAG mailer, SDAG Directory and the following month's meeting. Your contribution supports the future SDAG functions and field trips and will sponsor students at upcoming SDAG meeting. If you are a student and currently looking for employment and would like to be sponsored at a SDAG meeting, please contact John Hoobs at Geocon Incorporated (619) 695-2880. Please mail all corporate contributions to Mr. John Hoobs, Geocon Incorporated, 9530 Dowdy Drive, San Diego, CA 92126.

6)The December 1988 Poster session meeting was a great success thanks to 35 geology students from San Diego State University and contributions from Eric Frost (San Diego State University), Tom Kuper (Geocon Incorporated) and SDAG (all 35 students meals were paid!)

7)CALL FOR PAPERS! SDAG plans to prepare a publication entitled "Geologic Studies in San Diego, 1989" to accompany the SDAG 1989 Fall Field Trip. Submission of either unpublished manuscripts, or papers that have appeared elsewhere can be submitted through May 1989. The call for papers and donations should be directed to: Diane Murbach, 4626 Bay Summit Place, San Diego, CA. 92117 (619) 275-2474.



# BLACKHAWK CANYON

## GEOLOGY FIELD TRIP

Purpose: The purpose of this trip is primarily to look at the geology of Blackhawk Canyon--the source area of the Blackhawk landslide. Although excellent views are available overlooking the Blackhawk landslide, mid-day lighting is not good for photographs of it.

Date and meeting location: **Saturday, Jan. 21, 1989.** Meet at Bank of America parking lot (also dirt parking lot just east of bank) in downtown Lucerne Valley at 8:00 am SHARP. You must have a high clearance 4-wheel drive vehicle (NOTE: high clearance vans will not make it--DON'T BRING)--please carpool as much as possible, because the narrow road will be temporarily blocked whenever we stop. You should allow 2 hours travel time to Lucerne Valley from downtown Los Angeles.

Itinerary: We plan to proceed by vehicle up the northwestern side of Blackhawk Mountain, stopping to look at the complex relationships interpreted by Stout to be landslide debris (not Blackhawk landslide), and drop down the northern side of Blackhawk Mtn. into Blackhawk Canyon, where the vehicles will be parked. There will be about 2-3 hours hiking exercise--moderate to steep climbing, but some may elect to wait at the vehicles as necessary. If time/interest allows, we'll stop at the fossil locality where the carbon-14 sample dating the Blackhawk landslide was obtained. We should be on the lower alluvial plain near Old Woman Springs Road by dark (about 5 pm.). Bring lunches and beverages (no food available)!

Weather: In January, there is a moderately high likelihood of snow, but this area is in the rainshadow of the San Bernardino Mountains, so is normally protected from many L. A. Basin storms. Blackhawk Mountain is 6700 feet high, so expect cold weather (gloves, etc.). In the event of a major storm anytime during the week preceding the Saturday trip, we'll probably reschedule the trip for March, but a light dusting of snow will not affect our plans as long as snow accumulation is not too great along our route. Please call our department on Friday, Jan. 20th for confirmation if in doubt--213 343 2400. A message will also be left on our answering machine after 4 pm. so you can check on Friday evening.

Cost: There is no charge for this trip. Please call the department number if you are planning on attending. A few-page handout will be provided to each vehicle in Lucerne Valley regarding the stops and geology.

Martin L. Stout  
Professor of Geology  
Calif. State Univ.--L.A.

(more--over)

## GEOLOGY OF BLACKHAWK CANYON, SAN BERNARDINO MTNS, SOUTHERN CALIFORNIA\*

Blackhawk Canyon, on the northeastern edge of the San Bernardino Mountains in southern California, is best known as the source area for the Blackhawk landslide, a 17,000-20,000 year old mass of marble debris which Shreve (1968, 1987) proposed rode out on an air cushion. Recent mapping in Blackhawk Canyon shows that this model may need revision.

The canyon provides a classic exposure of Precambrian Baldwin Gneiss which has been thrust over easily eroded Pliocene Old Woman Sandstone by a southerly dipping fault known as the Voorhies thrust, one of five such thrusts. Nearby, the Baldwin Gneiss is intruded by Cretaceous Cactus Quartz Monzonite, and both are unconformably overlain by the Pliocene Old Woman Sandstone. Near the top of Blackhawk Mountain, Paleozoic carbonates have been emplaced by low angle faulting, and the post-Pliocene and most likely still active fault zones are heavily mineralized in places. High angle faults, as well as thrust faults, cut all contacts, and Quaternary landsliding has moved all of the above. Some difficulty is experienced in separating fault from landslide contacts.

Landslide evolution has greatly influenced the geology and geomorphology of the canyon. Exposures of paleo-talus and slip-surface striae directions, some exposed recently by mining operations, show that prior to movement of the Blackhawk landslide, at least two large (>3 sq km) rotational failures occurred on the northern side of Blackhawk Mountain, offsetting many of the primary fault features, including the Voorhies thrust. This older movement is substantiated by carbonate development in both talus and slide debris. By not recognizing these earlier landslides, nor associated displacement, incorrect assumptions regarding fault displacements, landslide source areas, and landslide timing have been made. The Blackhawk landslide was apparently derived from slide debris of one of these large rotational failures, so the Blackhawk landslide could not have fallen from the summit of Blackhawk Mountain as the air rafting model proposes.

\*Modified from Stout, M.L., 1988, Geological Society of America, Abstracts with Programs, v. 20, p. A 361.

### SELECTED GEOLOGIC MAP AND BLACKHAWK REFERENCES

- Johnson, B., 1978, Blackhawk landslide, California, U.S.A., in Voight, B., ed., Rockslides and avalanches, 1; Natural phenomena: Amsterdam, Elsevier Scientific Publishing Co., p. 71-93.
- Sadler, P., 1982, Geologic map of the Big Bear City quadrangle, California Division of Mines and geology, Open file map 82-18.
- Shreve, R.L., 1968, The Blackhawk landslide, Geological Society of America, Special Paper 108, 47 p.
- Stout, M.L., 1975, Age of the Blackhawk landslide, southern California, Geological Society of America, Abstracts with Programs, v. 7, p.378-379.
- \_\_\_\_\_, 1976, Age and engineering geologic observations of the Blackhawk landslide, Southern California, in Woyski, M., ed., Geologic guidebook to southwestern Mojave Desert Region, California, South Coast Geological Society, p. 104-109, also reprinted in South Coast's Transverse Range volume, 1982, p. 630-633.
- \_\_\_\_\_, 1977, Radiocarbon dating of landslides in southern California, California Geology, v. 30, p. 99-105.
- \_\_\_\_\_, 1985, Relation between large landslides and debris flows, Proc. IVth Intl. Conference and Field Workshop on landslides, Tokyo, p. 357-359.
- \_\_\_\_\_, 1988, Geology of Blackhawk Canyon, San Bernardino Mountains, southern California, Geological Society of America, Abstracts with Programs, v. 20, p. A361.
- Woodford, A.O. and Harriss, T.F., 1928, Geology of Blackhawk Canyon, San Bernardino Mountains, California, University of California Publications in the Geological Sciences, v. 17, p. 265-304.

TOPOGRAPHIC MAP REFERENCE: Big Bear City, 7.5-minute quad



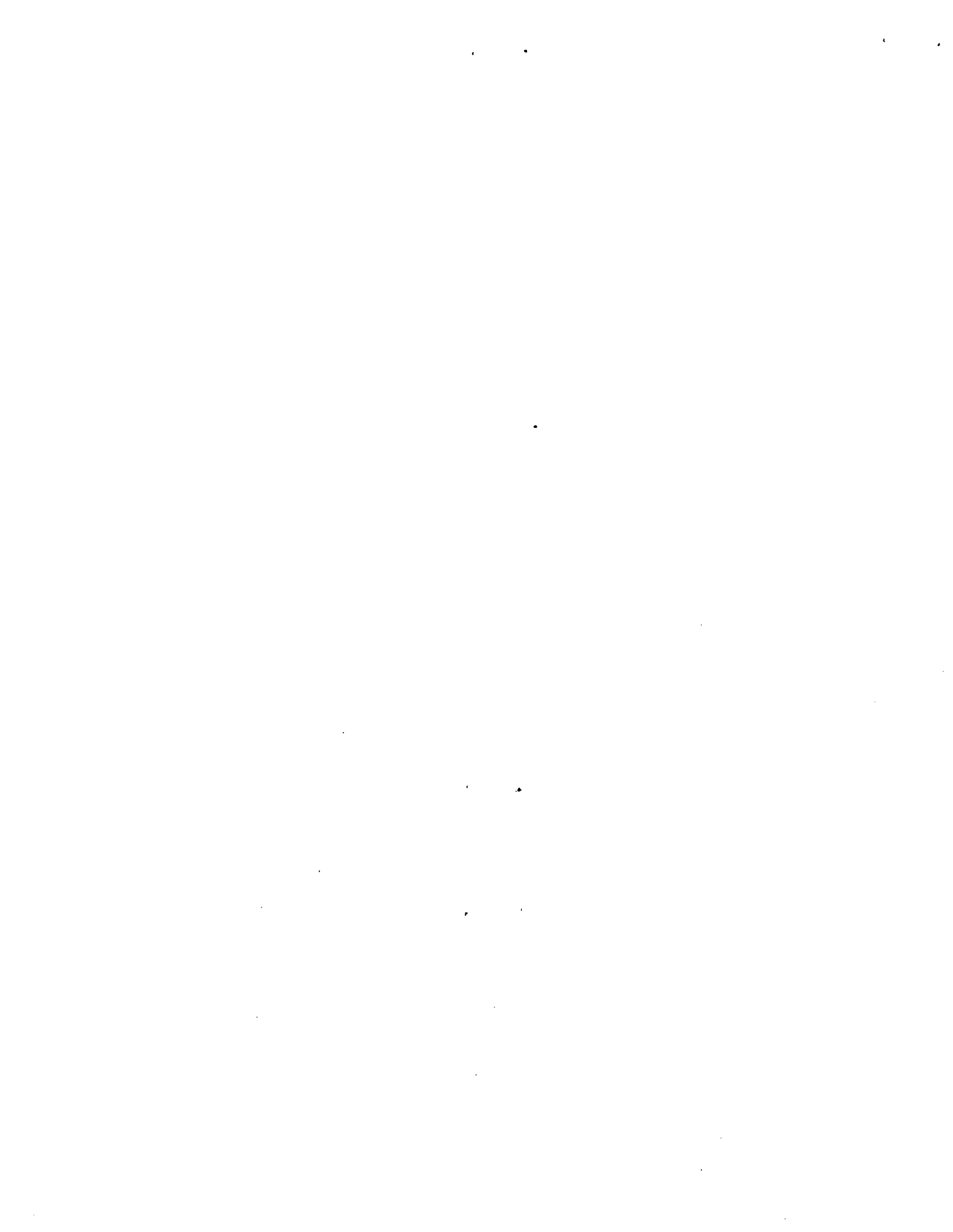
# SAN DIEGO ASSOCIATION OF GEOLOGISTS

## LIST OF PUBLICATIONS - 1989

<u>Quantity</u>	<u>Title</u>	<u>Cost</u>	<u>Amount</u>
_____	Geologic Studies of San Diego (1982) . . .	\$ 8.50	_____
_____	On the Manner of Deposition of the Eocene Strata in Northern San Diego County (1985). . . . .	\$10.00	_____
_____	Landslides in Crystalline Basement Terrain, San Diego County (1988) . . . . .	\$12.00	_____
	TOTAL AMOUNT ENCLOSED . . . . .		_____

Make check payable to: S.D.A.G.

Mail to: Ms. Lyne Perry  
c/o Leighton and Associates  
3934 Murphy Canyon Road  
Suite B205  
San Diego, California 92123







# SAN DIEGO ASSOCIATION OF GEOLOGISTS

## 1989 MEMBERSHIP FORM

SAN DIEGO ASSOCIATION OF GEOLOGISTS



Please check preferred mailing address

Name \_\_\_\_\_

Home Address \_\_\_\_\_

\_\_\_\_\_

Company or School \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Phones: home \_\_\_\_\_ work \_\_\_\_\_

Dues: \_\_\_\_\_ Student Member @ \$5.00

\_\_\_\_\_ Regular Member @ \$15.00

PLEASE ENCLOSE A CHECK MADE OUT TO SDAG AND MAIL TO:

GEOCON INC.  
John Hoobs  
9530 Dowdy Drive  
San Diego CA 92126

Date: \_\_\_\_\_



Susan E. Tangee 1989  
1465 E. Lexington Ave. #7A  
El Cajon, CA 92019

