The Engineering Geologist

THE GEOLOGICAL SOCIETY OF AMERICA

NEWSLETTER OF THE ENGINEERING GEOLOGY DIVISION OF THE GEOLOGICAL SOCIETY OF AMERICA

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MIDYEAR NOTE FROM THE CHAIRMAN

As a first order of business, I would like to discuss **THE ENGINEERING GEOLOGIST**, the newsletter of the Engineering Geology Division. As Past Chairman Frank Wilson noted in the January 1985 issue, our 1984 increase in dues has provided the necessary funding for four issues of **THE ENGINEERING GEOLOGIST** per year. Our new editor, Ted Smith, plans to publish these issues on a regular basis; the schedule of deadlines for submitting articles and the tentative publication dates are provided elsewhere in this issue. As you know, however, money and a good editor are not the only keys to producing a successful newsletter. The Editor needs interesting material to publish. In the Engineering Geology Division, some of this material comes from the editor himself and some from the Management Board officers, but much must come from the membership of the Division. Thus, it's up to you to help assure that **THE ENGINEERING GEOLOGIST** is a success.

Division plans for the 98th Annual Meeting of GSA in Orlando, Florida, October 28-31, 1985, are progressing on schedule. We have received official approval for sponsorship of a one-half day Symposium on Engineering Geology of Low Energy Coastlines. The symposium is tentatively scheduled for Monday afternoon, October 28th. Speakers for the symposium have been selected and abstracts are in the process of review. The morning of October 28th the Quaternary Geology and Geomorphology Division will sponsor a parallel Symposium on Sedimentary Processes and Deposits of Low Energy Coastlines. The planning of the back-to-back symposia has involved significant cooperation between the two divisions. We expect that both symposia will be of considerable interest to Engineering Geology Division members.

As Frank Wilson noted in the January issue, we've made some new appointments within the Division's operating framework, in addition to appointing a new editor for the newsletter. Terry West of Purdue University is the new Chairman of the Publications Committee, succeeding Allen Hatheway. On July 1, Robert Pack of Utah State University will succeed Cole McClure for a 3-year term as one of GSA's two representatives on the joint ASCE-GSA-AEG Committee on Engineering Geology; Lokesh Chaturvedi continues as the other GSA representative. In addition, David Dunn, Dean

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MEMORIAL AND TRIBUTE TO NEIL BURT STEUER 1924-1984

By FRANK W. WILSON AND NEIL'S FRIENDS

Neil Burt Steuer was born at Cleveland Heights, Ohio, on January 2, 1924. After attending public schools, the Valley Forge Military Academy, and one year at the University of Florida, Neil served in the U.S. Army, receiving parachute training at Fort Benning, Georgia. In 1950, Neil received his B.A. from the University of California, Los Angeles.

Neil was first employed as a junior mining engineer with Anaconda Copper Company in Butte, Montana. From 1951 to 1954 he worked as a geologist for Shell Oil Company doing surface mapping, shallow exploratory drilling, and geophysical prospecting in Colorado and Texas. He "sat" on many wildcat and deep-test wells in Texas and Oklahoma during his latter years with Shell.

In 1954, Neil became general manager of a tungsten mining company in the High Sierra of California. In charge of developing the property, he mapped the geology, surveyed the terrain, and designed and supervised the construction of roads, mining camp, mine, and mill. Much of this effort took place during winter when equipment had to be hauled in by snow-cats pulling sleds that Neil himself designed. The exploration and development work was finished and ore was mined and milled "before snow fell" near the end of the first year. About this time, the California Division of Mines open-filed his report on the geology of the area. During the following year he planned and participated in a mercury exploration program in another area which resulted in ore being found at greater depths than predicted.

As Senior Geologist with Kaiser Aluminum Company from 1956 to 1958, Neil supervised and participated in an exploratory program for bauxite on Maui and Kauai in Hawaii. He recommended that geothermal resources on the island of Hawaii be developed and the power be used to refine the ore. This was 20 years before the first geothermal well was drilled in the islands.

During the next two years he studied the hydrocarbon potential of the lower Amazon Basin for Petrobas, the Brazilian national oil company, and "sat" on many of the wildcat

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NOTE FROM THE CHAIRMAN (continued)
of the College of Natural Science and Mathematics, University of Texas at Dallas, has replaced Haydn Murray as the Division's representative to the GSA Council. We are happy to have these new people aboard, and we are enjoying working with them.

Bob Schuster
1984-85 Chairman

STEUER TRIBUTE (continued)
wells. As a private consultant, Neil evaluated oil and mineral properties in the U.S. and South America in 1961.

Much of Neil's work involved flying. At some time during this period, Neil became certified by the FAA as Airline Transport Pilot No. 1398249. It was during this time that he met Marjorie Macy who was won by the interesting accounts of his adventures in South America. They were married in January, 1962.

From 1961 to 1970, Neil was employed as geologist, project engineer, and project manager for two drilling companies that were principal contractors to the U.S. Atomic Energy Commission (AEC) on various underground weapons tests and Operation Plowshare, an investigation of the development of peaceful uses of nuclear energy. In 1964, he was a member of the reconnaissance team assigned to locate a route for a sea-level inter-oceanic canal across Panama. He wrote the official journal of that expedition.

On assignment to AEC and with authority delegated by the U.S. Department of State, Neil coordinated and supervised construction of a Nike rocket base in Brazil. The purpose of the base was to study the 1966 solar eclipse. This venture, the largest such expedition on foreign soil, was jointly sponsored by National Aeronautics and Space Administration (NASA) and AEC, and funded by the National Science Foundation. Participants included individuals from many universities and foreign countries. Neil had total responsibility for U.S. decisions on the project and wrote the official journal of the expedition.

As geologist and general manager for another AEC contractor from 1968 to 1970, Neil prepared drilling proposals, operation plans, and safety manuals, and evaluated rig requirements for Project Cannikin in Amchitca, Alaska. He also conceived and planned a program to hire, train, and employ Alaskan Indians and Aleuts on the project. This effort involved negotiating with the U.S. Bureau of Indian Affairs, tribal officials, major trade unions, state agencies, and universities. His ability to deal effectively with various interest groups was a hallmark of his career.

In 1970, he joined the AEC as project engineer on Project Cannikin, a project which involved drilling North America's deepest continuous shaft of 90 inches in diameter to 6,150 feet. Inside diameter of the casing was 54 inches. Apparently things did not go exactly as planned because Neil later presented a paper before the President's Council on Science and Technology describing the use of acoustical methods to locate the bottom of a lost drill hole at Amchitca. He also presented a paper on the development of cableless telemetry of deep-hole drilling.

As drilling engineer at the Nevada Test Site, Neil was responsible for drill-back, radiological, and meteorological monitoring, structural response, and damage evaluation. In 1973 he was project engineer for the largest land-based drilling rig constructed to that date, an all-electric monster with a 2 million pound gross-capacity mast.

In 1974, following reorganization of AEC, Neil joined the U.S. Nuclear Regulatory Commission as Senior Engineering Geologist. Assigned to the Office of Nuclear Research, he dealt primarily with site-safety standards. Among many other projects, he was given responsibility for organizing research on tectonic provinces, earthquake mechanisms, and earthquake potential for the eastern U.S. He conceived and organized a program of regional and subregional studies to be conducted by researchers from state surveys, universities, and federal agencies. The successful coordination and completion of these studies and reports are a tribute to his organizational and negotiating skills. For this, he received commendations from his agency, the American Association of State Geologists, and others. The results of the studies have ramifications far beyond the original scope of the program and add impetus to continued and future research in the area. For this and similar efforts, Neil became the first recipient of the Engineering Geology Division's Distinguished Practice Award in 1982.

In addition to the Geological Society of America, Neil was a member of the American Association of Petroleum Geologists and the American Institute of Professional Geologists. He was a Registered Geologist and Certified Engineering Geologist in California and Oregon; AIPG Certified Professional Geologist; AAPG Certified Petroleum Geologist; and a Fellow of the Explorers Club.

Neil's activities and interests were extremely varied. He belonged to many civic and service organizations, was a member of the Presbyterian Church, and a 32nd degree Mason. Among his qualifications he listed the fact that he was a certified diver. After retiring, he became a certified gemologist.

Neil loved to fly and was a careful and expert pilot. In addition to being a certified airline transport pilot, Neil was certified as an advanced flight and ground instructor for single and multi-engined aircraft, and for instrument training. He retired in late 1981 and moved to Redmond, Oregon. He looked forward to soaring over the Cascades in his own plane. One of the few sad times in his life came when he had to stop flying and sell his beloved airplane because of failing health. It is obvious that Neil lived a full and satisfying life to the very end. Neil Steuer died quietly in the arms of his wife Marjorie on November 21, 1984.

LANDSLIDE CONFERENCE SCHEDULED IN JAPAN

The Fourth International Conference and Field Workshop on Landslides will be held in Japan from August 23 to 31, 1985. The purpose of the meeting is to provide an opportunity for engineers and scientists to exchange ideas and information. The meeting will consist of a two-day long conference and a week long field trip. The official language of the

conference and workshop is English.

The field workshop begins in Tokyo on August 23, and will include visits to several landslide and debris flow localities. Workshop participants will return to Tokyo by air on August 29. The number of participants in the tour is limited to 40. The anticipated cost of the field trip is about $800 (US), and covers transportation, accommodations for seven nights, and 14 meals (two per day).

The conference will be held on August 30 and 31, and will cost about $60 (US). This fee covers the reception and cost of the proceedings volume (which will be distributed at the conference). Major themes of the conference include:

- Classification of landslides
- Landslide control measures
- Prediction and monitoring
- Hazard mapping
- Case studies of landslides

This meeting, held under the auspices of the Japan Landslide Society, is co-sponsored by the International Union of Forest Research Organizations, the Erosion Control Engineering Society, Japan, the Japanese Geomorphological Union, and the Japanese Association for Landslide Control Techniques.

All correspondence pertaining to the conference and field workshop should be addressed to:

T. Taniguchi
Chairman of the IVth ICFL
The Japan Landslide Society
Ichimura Buildg, 5-7-2 Shinbashi, Minato-ku,
Tokyo 105
Telex No. 490-6440

ENGINEERING GEOLOGY SHORT COURSE PLANNED

The Management Board of the Engineering Geology Division has begun planning a short course to be offered prior to the 1986 GSA Annual Meeting in San Antonio, Texas (November 10-13). Entitled "Engineering Geology for Geologists," tentative plans call for eight topics to be covered in the course:

Mapping of surficial and bedrock materials
Slope processes
Geoseismic issues
Construction and excavation issues
Surface water issues
Ground water issues
Waste disposal issues
Numerical methods of instrumentation

Suggestions or comments regarding the short course in general, or any of the specific topics, should be addressed to:

Jeffrey R. Keaton
Dames and Moore
250 E. Broadway - Suite 200
Salt Lake City, Utah 84111
phone: (801) 521-9255.

If sufficient interest is expressed in the course, it may be offered twice: once on Saturday, November 8, and once on Sunday, November 9.

EDITOR SETS DEADLINES, PUSHES COMPUTER SUBMISSIONS

As you undoubtedly read in the last issue, **THE ENGINEERING GEOLOGIST** has a new editor with this issue. In order to make my task a bit easier and reduce the amount of time and effort it takes to prepare this newsletter, I am taking the liberty of setting deadlines and am suggesting (urging!!) that articles or other lengthy contributions be submitted on floppy disk.

As a reader of newsletters, I find it disconcerting to receive issues a month or more after the publication date. I particularly dislike being told about an "upcoming" conference after deadlines for registration or, as sometimes occurs, after the conference has been held. I suspect that I am not alone. To avoid these and similar problems, I am setting the following tentative deadlines for submitting articles, announcements, and other items:

ISSUE	DEADLINE
July 1985	May 31
October 1985	August 30
January 1986	November 29
April 1986	February 28

I will remind readers of upcoming deadlines in each issue, and reserve the right to change the deadlines as necessary and desirable. Hopefully this will be the LAST issue of **THE ENGINEERING GEOLOGIST** that EGD members will receive "late."

Use of computers and word-processors is increasing, and since your editor owns one of these little wonders, I am encouraging that contributions be submitted on computer disk whenever possible. I dislike retyping somebody else's lengthy articles, reports, or meeting announcements (I'd rather be outside in the sunshine). Frankly, I am more likely to use a heavy hand in the editing process if I am required to type final copy rather than devote my time to a simple editing effort. And, if the item arrives late or at just under the deadline, it is less likely to make it into the next issue. So, if you have a lot to say, try to say it on floppy disk.

Elsewhere in this issue you will find new guidelines for submitting items for **THE ENGINEERING GEOLOGIST.** Please read them over carefully. Failure to adhere to these guidelines may result in rejection of your contribution.

Comments on the guidelines are welcome. And, if you have a special problem or special needs, please fell free to contact me and discuss the matter. Special arrangements can sometimes be made.

THE EDITOR

GUIDELINES FOR SPENT NUCLEAR FUEL ISSUED

From the February issue of Environmental Science and Technology comes word that final guidelines for a "geologic repository system for disposing of spent nuclear fuel and high-level radioactive waste from commercial power plants" have been issued by the Department of Energy. These guidelines establish performance requirements for the system and define

the technical and environmental qualifications that potential sites must meet. Published in the Federal Register on Dec. 6, 1984, the guidelines became effective 30 days later. Copies of the guidelines are available from the Department of Energy, Public Inquiries.

FLUVIAL SEDIMENTOLOGY CONFERENCE ANNOUNCED

The Third International Sedimentology Conference will be held at Colorado State University from August 7-9, 1985, with pre- and post-meeting field trips. The conference organizers and sponsors invite all interested scientists to attend. The objective of the conference is to improve understanding of modern river processes and deposits as well as ancient fluvial deposits.

Advanced registration and fees for those planning to attend field trips must be received by July 1, 1985. Interested persons may pre-register for the conference for $85.00 ($65.00 for students) until July 1. Fees will increase [amount not specified in the release - Ed.] after that date.

All communications and requests for information should be addressed to: Third International Fluvial Sedimentology Conference, Office of Conference Services, Colorado State University, Rockwell Hall, Fort Collins, CO 80523 (telephone 303-491-6222).

GROUND FAILURE NEWSLETTER AVAILABLE

The National Research Council Committee on Ground Failure Hazards has begun publication of a newsletter, titled Ground Failure. Issue No. 1, Winter 1984-85, which was recently released, contains 16 pages of information on landslides, subsidence, expansive soils, meetings, and publications. Contributed articles for the newsletter should be sent to:

A.G. Keene, Los Angeles County Geologist
Department of County Engineer - Facilities
550 South Vermont
Los Angeles, CA 90020
phone (213) 738-2161

Other inquiries about Ground Failure should be directed to:

O. Allen, Executive Secretary
Committee on Ground Failure Hazards
National Research Council
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

SHORT ARTICLES AND FILLERS WANTED

Well-written, short, timely articles and "fillers" are needed for **THE ENGINEERING GEOLOGIST.** I'd much rather include short "newsy items" that may be of interest to members than leave half a page or more of **THE ENGINEERING GEOLOGIST** blank. So, if a short article or note in a newspaper or other periodical catches your eye, why not cut it out and send to the editor. Also include a note indicating your name, address, and phone number, as well as the sources of any news items you submit.

GROUND FAILURE HAZARDS REPORT RELEASED

The Committee on Ground Failure Hazards, Commission of Engineering and Technical Systems, National Research Council, has released its first report. Entitled Reducing Losses from Landsliding in the United States, it includes a discussion of the context in which landslide research is carried out. Gaps between research and successful reduction of landslide losses in the U.S. are also discussed.

A limited number of copies of the report are available from the Committee on Ground Failure Hazards, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. The report may also be purchased from National Technical Information Service, Attention: Document Sales, 5285 Port Royal Road, Springfield, VA 22161 [Report No. CETS-ABBE-156; Price Codes: paper A03, mf A01].

AGI ENGINEERING GEOLOGY PUBLICATION IN TROUBLE??

The American Geological Institute (AGI) reports that renewals and new subscriptions to Engineering Geology Abstracts have dropped dramatically. It seems that AGI staff are at a loss to explain why this has occurred since seventy-eight per cent of current subscribers pay the discount rate of $16.50 (the regular rate is $20.00 per annum). Published each January, April, July, and October, AGI admits some confusion may have been created when the first issue was published one month late and the renewal notice was sent to subscribers only five months later.

Each issue of Engineering Geology Abstracts contains approximately 200 abstracts as well as bibliographic citations to current books, maps, and reports. These are arranged by title under 22 subject headings. Now you might argue that you don't need this publication since you may not have direct access to a library that stocks all of the publications listed in the E.G. Abstracts. But did you know that photocopies of all articles cited may be ordered from the GeoRef Document Delivery Service of AGI? [I didn't know that until I read their news release]. What a potential resource for engineering geologists out there in the wilds of North America (and elsewhere, too). And, if you have access to a good library, E.G. Abstracts can be a real time saver.

If you need Engineering Geology Abstracts, contact Kay Yost, American Geological Institute, 4220 King Street, Alexandria, Virginia 22302. Phone (703) 379-2480 or (800) 336-4764 toll free (outside of Virginia).

LANDMARK GROUNDWATER RIGHTS RULING

The Ohio Supreme Court has ruled that a landowner is no longer entitled to all of the water beneath his property. A major reversal of environmental law, the landowner now loses his rights if withdrawal or contamination harms a neighbor's water supply. Previously, groundwater had been regarded as being totally owned by the landowner, and usable at his discretion. The old law, passed in 1861,

stated that groundwater is "so secret, occult, and concealed" that regulation is impossible. The new Ohio court ruling recognized that technological advances had been made that removed the occult aspects of groundwater. National Water Well Association executive director Jay Lehr believes that the decision could immediately affect about 20 states that still observe the old law. [Summarized from Environmental Science and Technology, 19(3): 205-206).

AMERICAN GEOMORPHOLOGICAL FIELD GROUP TO HOLD CONFERENCE

The American Geomorphological Field Group will meet in the Redwood Country of Northern California from June 18-21, 1985. One day of technical sessions will be held at Humboldt State University in Arcata, CA, and will be followed by three days of field trips. Emphasis of the trips include erosive forces (including landsliding and debris flows), and Holocene tectonism.

Additional information is available from the American Geomorphological Field Group Secretariat, Department of Geology and Geophysics, University of California, Berkeley, CA 94720 (telephone 415-642-3993). The field trip will be limited to about 150 participants.

PROCEEDINGS OF UTAH CONFERENCE AVAILABLE

Copies of the proceedings of the June 1984 Conference on Delineation of Landslide, Flash Flood, and Debris Flow Hazards in Utah are now available for purchase. The two-day conference, held at Utah State University in Logan, included over 50 technical presentations on geologic and flood hazards, mitigative measures, emergency preparedness and response, and a special session on the Thistle landslide.

The proceedings may be purchased for $30.00 from: Dawn Herzog, Utah Water Research Laboratory, UMC 82, Utah State University, Logan, Utah 84322. Make checks payable to Utah Water Reseach Laboratory or provide invoicing instructions. (Editor's note: Utah residents may need to add sales tax; check with Dawn Herzog to be certain).

GUIDELINES FOR SUBMITTING ARTICLES, ETC. TO THE ENGINEERING GEOLOGIST

All Items

Please include your name, address, and phone number with all items submitted. Items should be sent to:

Ted Smith
California Division of Mines and Geology
380 Civic Drive, Suite 100
Pleasant Hill, CA 94523

Items On Computer Disk

As indicated elsewhere in this issue, I encourage you to submit contributions to **THE ENGINEERING GEOLOGIST** on floppy disk if possible. Currently, I have access to computers and word-processors reportedly capable of reading the following single-sided formats (5 1/4 inch diskettes unless otherwise noted:

IBM PC-DOS 1.x & 2.x
Hewlett-Packard 150 (3")
Osborne SD & DD
IBM CP/M-86
Kaypro II
Morrow MD2
TRS-80 with Omikron CP/M
TRS-80 III w/Memory Merchant
TRS-80 IV with CP/M+
Cromemco w/Int'l Term
Cromemco CDOS SSSD & SSDD
Systel II
Heath Z100
Heath w/Magnolia CP/M
TI Professional CP/M-86
Actrix
Lobo Max-80
Xerox 820 I SD
Xerox 820 II DD
Zenith Z90
DEC VT180
NEC PC-8001A
LNW-80
Wang word-processor (8")

Note that the 5 1/4 inch diskette formats are preferred. Include a note indicating which format you use. Please strip all print commands, underlining, soft hyphens, or other special characters from the file (soft carriage returns are okay). Please also include a hard (paper) copy of the item with the disk. You may indicate any underlining or other special printing you desire on the hard copy. The hard copy will also permit me to "recover" any material lost during reformatting or in the mail (magnetic fields might cause problems). I will return the disk to you after I have copied it. Be sure to include an address and a phone number where you can be reached should questions or problems arise.

By Modem

If a modem (300 or 1200 baud) is available, you may prefer to upload over the phone (especially if the system you have is not one of those listed above). Arrangements can be made be contacting the editor at 415-671-4935 (by voice first, please, since I don't speak binary code). You should also plan to mail a hard copy to the editor. Again, include your address and phone number.

On Paper

If computers are not your bag, please adhere to the following guidelines.

- Double space all items submitted.
- Hand-written materials are okay ONLY IF I CAN READ YOUR HANDWRITING. (If in doubt, I advise that you not take the chance; double spacing is still required).
- Margins should be ample (one inch all around recommended).
- Citations and bibliographic entries

should be in standard GSA format.

- Minor corrections may be indicated on your manuscript since all items submitted will be retyped.

- Please submit your item early. I may not be able to accommodate a "last minute rush."

THE EDITOR

UPDATE ON THE GREAT SALT LAKE

By Jeffrey R. Keaton

The Great Salt Lake hit elevation 4209.35 feet on March 15, 1985. The last time the lake was this high was in 1878. Historic high water occurred in 1873 at elevation 4211.60, and projections of lake levels suggest that it might again reach that elevation in early summer of 1985.

Historic low water (4191.35 feet) occurred in 1963 at a time when development was beginning to expand in the Salt Lake City area. A number of facilities were established on previously inundated lakebed. In 1982, the lake was at 4200 feet, as it was in 1843 when measured by John C. Fremont.

Sensational rainfall in September, 1982 (2.27 inches in 24 hours; 7.04 inches for the month) marked the beginning of the lake's dramatic rise. Rainfall for 1982 totalled 22.86 inches, considerably above the 15.63-inch annual average and the wettest in the 108-year period of record. The lake rose 5.05 feet between September, 1982, and June, 1983 (the largest seasonal rise in history), peaking at 4204.70 feet. The smallest seasonal decline of the lake ever recorded (0.40 feet) occurred in the summer of 1983. The fall of 1983 and spring of 1984 produced the second largest seasonal rise (4.95 feet), to an elevation of 4209.25 feet. The 1.40 foot decline between June and October, 1984, is somewhat artificial, influenced greatly by a 300-foot breach in the Southern Pacific Railroad Causeway, which once effectively divided the lake into two arms. Prior to the breach, the south arm was nearly four feet higher than the north arm, because 1) virtually all of the inflow to the lake is into the south arm, and 2) the climate of the north arm promotes more rapid evaporation than in the south arm.

U.S. Geological Survey Circular 913 (Arnow, Ted, 1984, Water-level and water quality changes in Great Salt Lake, Utah, 1847-1983) and an excellent map by Donald R. Curry Genevieve Atwood, and Don R. Mabey (1984, Major levels of Great Salt Lake and Lake Bonneville: Utah Geological and Mineral Survey Map 73) may be of interest to readers. The latter is available for $4.50 plus $1.50 postage (Utah residents please add $0.26) from Utah Geological and Mineral Survey, 606 Black Hawk Way, Salt Lake City, Utah 84108-1280.

A specialty conference (Problems of and Prospects for Predicting Great Salt Lake Levels) was held March 26-28, 1985. For information concerning availability of conference proceedings, contact Conferences and Institutes, Division of Continuing Education, 1120 Annex, University of Utah, Salt Lake City, Utah 84112, phone: (801) 581-5809.

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