



# GSA news & information

G.S.A. ARCHIVES

VOLUME 5, NUMBER 2

FEBRUARY 1983

## Report on New Orleans Meeting, October 18-21, 1982

Attracted by an excellent program and by the New Orleans reputation for famous music, food, and entertainment, geologists from 52 states, Canada, Mexico, and several other countries attended the 95th Annual Meeting. Though less than saintly, 4,793 geologists marched into New Orleans, making this the third highest registration in GSA's history.

Attendance separated into the following categories:

Professionals	2,881
Students	1,447
Guests	449
Visitors	16
	<hr/>
	4,793

Included in the total are 272 complimentary registrations that went to the Local Committee, special guests, and student assistants. Of the total, 3,026 (63%) preregistered. One-day registration was 338 (7%), representing a trend that is slowly but steadily increasing.

A total of 1,667 abstracts were submitted—the largest number to date—exceeding the Cincinnati meeting by 271. Of these, 278 were submitted for 25 symposia. Of the 1,389 abstracts submitted for general sessions, 1,001 were accepted (72.1%); 762 were presented in oral sessions and 239 in poster sessions. Including symposia and general sessions, there were 83 half-day programs plus 6 half-day poster sessions.

New for this year, and possibly representing a medium for future symposia, were two symposia using the poster format to present 40 papers.

Field trips extended from the Upper Cretaceous strata of the southeastern margin of the Mississippi Embayment to the carbonate rocks of the Yucatan Peninsula. Eleven trips involved 269 participants in 8 premeeting and 3 postmeeting trips.

Instructional programs shared the limelight with the technical program. Eight short courses and workshops were sponsored by GSA, MSA, PS, SEG, and AGI. Another first in '82 was GSA's direct sponsorship of its own courses: "Deltas—Their Application to Oil, Gas, and Coal Exploration" and "Remote Sensing—Image Interpretation for Geoscientists." Even the Guest Program was highly successful with its introduction of technical programs for nontechnical people.

Open to the public was the GSA Forum on "Venera, Venus Pioneer, and Voyager." In a more controversial vein was the Paleontological Society's creationism symposium, which attracted geologists and geology teachers from all over Louisiana. An ever-growing aspect of the meeting is the number of women geoscientists attending. This year, they sponsored a successful colloquium on "Career Opportunities for Women in the Geosciences."

The official meeting lasted Monday through Thursday. However, the Sunday preceding the meeting was also an active day, including symposia, short courses, workshops, field trips, and business meetings. More than 3,500 people were at the Sunday night Welcoming Reception. For the first time, exhibits were open Sunday evening—a popular decision with registrants and exhibitors alike.

The technical and scientific quality of the exhibits reached another high this year. The displays and presentations offered by exhibitors continue to be highly attractive. There were 129 booth spaces representing 92 exhibitors. The lounge areas in the hall offered free morning coffee and the best lunch prices around. A cooking demonstration featured Cajun and Creole food on Monday and Tuesday afternoons. Among the new exhibits was a GSA Combined Publishers booth which offered samples of 101 titles from 23 publishers. We are also pleased with activity resulting from the expanded GSA Books booth which offered GSA publications and maps. Information was

*(continued next page)*

(annual meeting report, continued)

available on the DNAG program and consultation was provided for current or prospective GSA authors.

Unemployment is up, but the GSA Employment Service works for its members by bringing together employers and applicants looking for a match for those jobs that are available. In New Orleans, the service was utilized by 41 employers, who conducted 516 interviews with 263 applicants for 70 positions. Of the positions available, 54 were classified as academic, 10 as corporate, and 6 as government or other.

The number of employers and positions dropped by almost 50%, while the number of applicants increased by about 50%. This is a sign of economic conditions and points out the increasing need for centralized employment information for the geosciences. As close as your phone, the Employment Service operates year-round as a function of the GSA Membership Department.

No meeting ever lives on its technical content alone. Certainly of equal importance are the social/professional contacts. This contact was aided and abetted by alumni receptions (attended by about 4,000) and the Riverboat Night (attended by 1,850). The dancers and Dixieland music lovers had their night on the Mississippi. The owners of the *President* say it was one of the best parties every held on their steamboat—and it was certainly the highest beer consumption they had ever seen.

A meeting like the one in New Orleans can't happen without the support of a dedicated and effective local committee and a superb headquarters staff. To everyone who participated, from chairmen to packet stuffers, we extend our warmest thanks for a highly successful meeting.

## FACES at *New Orleans*



Erhard Winkler



William Mathews



David Slemmons



James W. Skehan, S.J.



Paul Bailly



Noel M. Ravneberg



Jules Braunstein



Arthur Boucot



Robert E. Boyer



Haydn Murray

Photos courtesy of Wendell Cochran



L-R: Arthur Mirsky, Digby J. McLaren, Jules Braunstein



David A. Crerar, Donald E. White



Dr. and Mrs. Aaron C. Waters



Eugene M. Shoemaker



Stephanie Bruno



L-R: Robin Brett, Leon T. Silver, Harold Masursky



Bruce B. Hanshaw, Doris M. Curtis, Arthur A. Socolow



Top, L-R: Konrad B. Krauskopf, Richard H. Jahns;  
Bottom, L-R: Hollis D. Hedberg, Mrs. Konrad Krauskopf,  
John Rodgers, Mrs. Richard H. Jahns



F. Michael Wahl, Digby J. McLaren

# Calendar of Penrose Conferences for 1983 and 1984

The conferences are normally scheduled for five days. The registration fees include food and lodging. Those desiring information on any of the conferences are requested to contact the convener(s) at the addresses and telephone numbers given. For your convenience, an application form accompanies this calendar.

## April 18-21, 1983

### TECTONIC GEOMORPHOLOGY

University of Arizona Conference Center, Tucson, Arizona

*Conveners:* **William B. Bull**, Geosciences Department of University of Arizona, Tucson, AZ 85721. (602) 626-1819 (Department); (602) 626-2219 (Direct). **Robert E. Wallace**, U.S. Geological Survey, MS 77, 345 Middlefield Road, Menlo Park, CA 94025. (415) 323-8111, ext. 2751. Registration fee: \$400.

## Late August 1983

### MELANGES OF THE APPALACHIAN OROGEN

Suggested location: Island of Newfoundland

*Conveners:* **Harold Williams**, Department of Earth Sciences, Memorial University of Newfoundland, St. Johns, Newfoundland A1B 3X5. (709) 737-8142 (Department). **Nicholas Rast**, Department of Geology, University of Kentucky, Lexington, KY 40506. (606) 257-3758 (Department). Registration fee: Not set at press time.

## September 5-9, 1983

### BLUESCHISTS AND RELATED ECLOGITES

Bellingham and Seattle, Washington

*Conveners:* **Edwin H. Brown**, Department of Geology, Western Washington University, Bellingham, WA 98225. (206) 676-3582 (Department); (206) 676-3586 (Direct). **Bernard W. Evans** (206) 543-1750 (Direct). **Robert B. Forbes** (206) 543-4434 (Direct). **Peter Misch** (206) 543-1094 (Direct), Department of Geological Sciences, AJ-20, University of Washington, Seattle, WA 98195 (206) 543-1190 (Department). Registration fee: To be under \$400.

## Late September 1983

### CRETACEOUS CLIMATES

Suggested location: Colorado Rocky Mountains

*Conveners:* **Eric J. Barron**, Paleoclimatic Studies Program, National Center for Atmospheric Research, P.O. Box 3000, Boulder, CO 80307. (303) 494-5151, ext. 485. **William W. Hay**, Director, Museum, Campus Box 218, University of Colorado, Boulder, CO 80309. (303) 492-6165. **Erle G. Kauffman**, Chairman, Department of Geological Sciences, Campus Box 250, University of Colorado, Boulder, CO 80309. (303) 492-8141 (Department). Registration fee: Not set at press time.

## Tentatively scheduled for spring 1984

### PROCESSES AND PRODUCTS OF MULTISTAGE MELTING AND METASOMATISM IN THE MANTLE

Suggested location: Saguaro Lake Ranch, Phoenix, Arizona

*Conveners:* **Jane E. Pike**, U.S. Geological Survey, MS 75, 345 Middlefield Road, Menlo Park, CA 94025. (415) 323-8111, ext. 2505 or ext. 2238. **Arthur L. Boettcher**, Department of Earth & Space Sciences, University of California, Los Angeles, CA 90024. (213) 825-3880 (Department); (213) 825-8868 (Direct). **Frederick A. Frey**, Department of Earth & Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA 02139. (617) 253-3381 (Department); (617) 253-3818 (Direct). **Frank M. Richter**, Department of Geophysical Sciences, The University of Chicago, 5734 Ellis Avenue, Chicago, IL 60637. (312) 962-8101 (Department); (312) 962-8118 (Direct). Registration fee: Not set at press time.

THERE ARE OTHER PROPOSALS UNDER CONSIDERATION FOR 1983 AND 1984.

## Application for participation in a Penrose Conference

Title of Penrose Conference \_\_\_\_\_

Your name and title \_\_\_\_\_

Organization \_\_\_\_\_

Mailing address \_\_\_\_\_

Street or P.O. Box

City and State

Zip Code

Telephone number \_\_\_\_\_

Area Code

Number

Field of interest \_\_\_\_\_

Please state briefly what your interest and experience have been with regard to the conference topic.



CALL FOR PAPERS

OCEANS '83  
MTS-IEEE CONFERENCE & EXPOSITION

Hilton Hotel, San Francisco, California  
August 29–September 1, 1983

Theme: Effective Use of the Sea—An Update  
Abstracts deadline: February 11, 1983

Request abstract forms from: Oceans '83, P.O. Box 71030,  
Sunnyvale, CA 94086 (408) 742-3104

“Oceanic Lithosphere: Origin, Structure and  
Dynamics” topic of symposium

The fifth annual Texas A&M Geodynamics Research Program Symposium, cosponsored by the Inter-Union Commission on the Lithosphere (ICL), will be held April 28-29, 1983. This year's topic is “Oceanic Lithosphere: Origin, Structure and Dynamics.” Co-conveners are George Sharman, Texas A&M Geodynamics Research Program, and Jean Francheteau, Chairman, ICL Working Group 6. For further information, call the Texas A&M Geodynamics Office, (713) 845-8477.

Geology and Women's History Week

March 6-13, 1983, has been designated as Women's History Week by the United States Congress. In honor of the occasion, members of the History of Science Society Women's Committee are assembling bibliographies on the history of women in specific sciences. For a copy of the list on the history of women in geology, write M. Aldrich, American Association for the Advancement of Science, 1776 Massachusetts Ave. NW, Washington, DC 20036.

Ninth Caribbean Geological Conference  
Transactions now available

The 9th Caribbean Geological Conference, 1980, announces that the *Transactions* of the conference are now published and are being mailed to the participants of the conference and to those who have reserved copies.

The *Transactions* consist of two volumes totaling 716 pages.

Additional copies are for sale at \$75.00 per set, from 9th Caribbean Geological Conference, P.O. Box 2719, Santo Domingo, Dominican Republic.

Sixth International Symposium on Salt

May 24-28, 1983

Royal York Hotel, Toronto, Ontario, Canada

Please request registration forms and information from  
Sixth International Symposium on Salt  
Domtar Chemicals Group/Sifto Salt Division  
1136 Matheson Boulevard  
Mississauga, Ontario, Canada L4W 2V4

Short Courses scheduled for 1983, University of  
Nevada-Reno Mackay School of Mines and  
Division of Continuing Education

The following short courses are offered in cooperation with the University of Nevada-Reno Mackay School of Mines and Division of Continuing Education. For further information, contact Leanne Stone, University of Nevada-Reno, Continuing Education, Reno, NV 89557, (702) 784-4046.

February 4-5, 1983

MINING LAW

El Dorado Hotel, Reno, Nevada

Faculty: Richard Harris, geologist and mining attorney; Roger Jeppson, specialist in mining law and mineral litigation  
Fee: \$250.

May 1983

GEOSTATISTICS SERIES

Three (3) short courses over a 10-day period in May  
University of Nevada-Reno, Campus, Reno, Nevada

Faculty: A. G. Royle, B.S., M.I.M.M. Lecturer in mineral economics and geostatistics at Leeds University, England  
Fee: TBA.

May 1983

UNDERSTANDING THE MINING INDUSTRY

Reno, Nevada

Faculty: TBA

Fee: TBA.

July 18-20, 1983 (repeat of January 1983 course)

FINANCIAL DECISION MAKING & RISK IN THE MINERAL  
INDUSTRY

Airport Plaza Hotel, Reno, Nevada

Faculty: John W. Whitney, Ph.D., Minerals Economist-Geologist;  
Ronald E. Whitney, M.B.A., Computer Systems Analyst  
Fee: \$575.

September 18-22, 1983

BRECCIATION AND MINERALIZATION—  
GEOLOGICAL OCCURRENCE AND GENESIS

An invitational research conference limited to 80 participants. Will include presentations of papers, optional post-conference field trip to Westcliff and Summitville districts.

Broadmoor Hotel, Colorado Springs, Colorado

Co-conveners: Hal Bonham, Jr., Mining and Research Geologist, Nevada Bureau of Mines and Geology, University of Nevada-Reno; David Giles, Consultant, Cimarron Exploration, Inc., Lakewood, Colorado; Donald Noble, Professor of Geology, Department of Geological Sciences, University of Nevada-Reno; Frederick Sawkins, Associate Professor, Department of Geology and Geophysics, University of Minnesota.

Fee: \$450 (includes room, double occupancy, at the Broadmoor)

IN MEMORIAM

Irving A. Breger  
Reston, Virginia

Berlen C. Moneymaker  
Knoxville, Tennessee

Edwin A. Brown  
San Antonio, Texas

Alfred K. Snelgrove  
Largo, Florida

Herbert Insley  
Albany, New York

James P. Spillers  
Lafayette, Louisiana

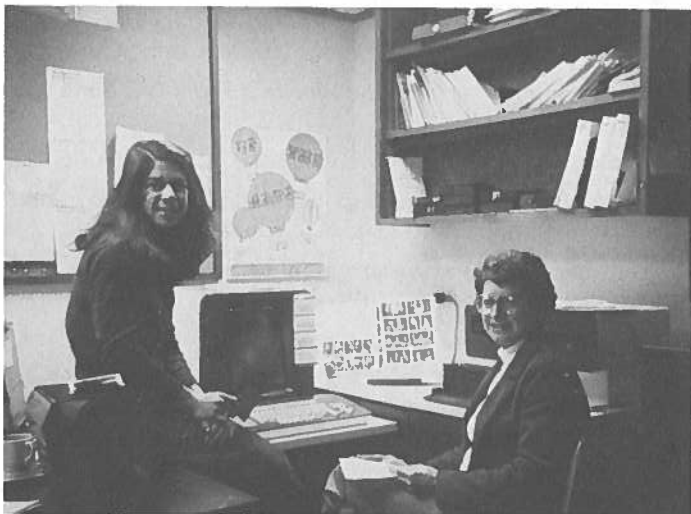
Russell S. Knappen  
Glenside, Pennsylvania

## GSA acquires new typesetting equipment

Modern typesetting equipment recently replaced "Sadie," the nickname given by the GSA production staff to the seven-year-old typesetting machine which, along with an IBM Selectric Composer, had served GSA for several years.

The new equipment package consists of an AM Varityper 5810 Comp/Edit phototypesetter and CRT terminal, an AM Varityper 5414 Comp/Edit free-standing input terminal, and a chemical processor for type galleys.

The need to be able to capture and store typesetting keystrokes was the primary reason for leasing the faster, more modern equipment. Sadie had no data storage mechanism at all, and the IBM Composer had only limited, temporary storage. The new Varityper main unit has dual 8" floppy disk drives for unlimited temporary or permanent data storage, and the remote terminal has a single floppy disk drive.



Ann H. Fogel and June E. Thomas at new AM Varityper Comp/Edit 5810.

Also, the main unit is being equipped with a telecommunications feature which permits direct hookup to GSA's Publications Department computer system, making it possible to transfer computer outputs to the phototypesetting unit for immediate translation into high quality typesetting without the need to re-keystroke the material. It also allows for transfer of typeset data back to the computer system's massive hard disk storage systems for long-term, more stable storage.

Several computer outputs already are being created at GSA, such as the lengthy and complicated technical programs for the *Abstracts with Programs* series and tabular matter for this and other publications. Other items, such as articles and reports, are created by staff using the word processing capabilities of our computer system. These items now can be translated in minutes into typesetting, whenever it is required or is more economical because of the greater compaction of typeset material.

GSA's new computer system for the Membership, Administrative, Accounting, and Meetings Departments is currently being installed. Items created on that system also can be transferred to the phototypesetting unit for instant translation. It is planned that many items, including GSA's Membership Directory, will be produced in this manner in the future.

In addition to providing data storage, the new system gives GSA's Production Department a greatly increased range of type styles and sizes. More than 25 type faces are now on line and each face can produce type from sizes of 5½ points up to 74 points in ½-point increments. Those 25 faces, then, can produce nearly 4,000 different type sizes/styles.

GSA Production Specialists June Thomas and Ann H. Fogel have completed formal training on the basic equipment. They have used it for the past three months for the production of this newsletter and other GSA typesetting needs (including many signs and other items for the recent Annual Meeting in New Orleans).

## NAGT Summer Field Course Clearinghouse Service

Students who are having trouble finding an open summer geology field course and summer field camps that have unfilled openings can be put in touch with each other by contacting: Dr. Tom Hendrix, Department of Geology, Grand Valley State Colleges, Allendale, MI 49401, (616) 895-6611, X191. Updates of field camp openings will be made March 1 and April 1 and will be sent free of charge to students upon request. Inquiries about openings should be by letter (with self-addressed, stamped envelope for reply) or by phone (no collect calls will be accepted). Field camps who wish to be included with the service should fill out the form below and return it to Tom Hendrix (address above). Requests for field camp updates will be sent out February 15 and March 15.

This service is not meant to evaluate new or existing summer field courses or to solicit enrollment for any particular camp.

### Summer Field Course Openings

.....

Institution \_\_\_\_\_ Course site \_\_\_\_\_

Date(s) of Course(s) \_\_\_\_\_ Sem. or Qtr. Credits \_\_\_\_\_

Will your course accept outside students? \_\_\_\_\_ Yes \_\_\_\_\_ No

Number of outside openings remaining as of \_\_\_\_\_ Date \_\_\_\_\_

If full, will you accept names for a waiting list? \_\_\_\_\_ Yes \_\_\_\_\_ No

Name and address of Field Camp Director: \_\_\_\_\_

# CORDILLERAN & ROCKY MOUNTAIN SECTIONS, GSA

FINAL NOTICE

MAY 2-4, 1983

FINAL NOTICE

The 79th annual meeting of the Cordilleran Section and the 36th annual meeting of the Rocky Mountain Section will be held May 2-4, 1983, at the Salt Palace Center, Salt Lake City, Utah, in conjunction with the 78th annual meeting of the Seismological Society of America and the annual meeting of the Pacific Coast Section of the Paleontological Society. The Department of Geology and Geophysics, University of Utah, as host, is organizing the arrangements and program for the meeting. The headquarters for the meeting is the Marriott Hotel.

## REGISTRATION

Preregistration will be by mail. On-site registration will take place Sunday, May 1, from 1700 to 2100 hours at the Marriott Hotel and during the meeting at the Salt Palace Center. **Preregistration fees** are \$35.00 for professionals, \$3.00 for GSA Student Associates, and \$6.00 for other students. **On-site registration** for professionals is \$45.00 for three days, \$30.00 for one day, and \$6.00 for all students. The lower preregistration rates are in effect **only until March 28, 1983**. To qualify for GSA Student Associate preregistration rate, you must show your 1983 GSA Membership Card when picking up your registration packet. To qualify for the student rate, you must show your student ID when registering or when picking up your preregistration packet. Guests not attending the technical sessions and field trips are welcome and will not be charged a registration fee.

## WELCOMING PARTY

A welcoming party with no-host bar will be held for all registrants from 1930 to 2300 hours on Sunday, May 1, at the Marriott Hotel.

## SYMPOSIA (organizers in parentheses)

### GSA

- A. *Cretaceous-Tertiary boundary problem in the San Juan basin and northern N.M.* (J. K. Rigby, Jr. and J. E. Fassett)
- B. *Trace fossils and bioturbation in nonmarine sedimentary deposits* (M. D. Picard and A. A. Ekdale) (co-sponsored with the Paleontological Society, Pacific Coast Section)
- C. *Environments of deposition and paleoecology of Mesozoic non-marine strata on the Colorado Plateau* (S. R. Ash and F. Peterson)
- D. *Tertiary tectonics and volcanism of the eastern Great Basin* (D. W. Fiesinger and D. Miller)
- E. *The pre-Tertiary evolution of northeastern Oregon and western Idaho* (H. G. Avé Lallement and E. D. Mullen)
- F. *Engineering geology of liquefiable deposits in the western U.S.* (J. R. Keaton and W. Lund)
- G. *Late Quaternary history of Clear Lake, California* (J. D. Sims)
- H. *Contrasts of structural style of the foreland and hinterland of the Sevier orogenic belt* (P. K. Link and D. M. Miller)
  - I. *Rio Grande Rift: New research* (R. E. Reicker and C. Chapin)
  - J. *Stratigraphy, paleoenvironments, and neotectonics of Quaternary lakes in the Great Basin* (D. R. Currey and W. D. McCoy)

- K. *The nature and timing of Cordilleran Mesozoic deformation between the Canadian and Mexican borders* (G. D. Harper and J. B. Saleeby)
- L. *Continental extensional processes* (R. K. Dokka and J. K. Opton)
- M. *Pacific margin tectonostratigraphic terranes from Washington to Alaska* (N. M. Savage and M. Churkin, Jr.)
- N. *Engineering geology of the Wasatch Front* (W. Lund and W. Leeflang)

### Seismological Society of America

- I. *Earthquakes and faulting: Geometry, mechanics, and timing* (D. P. Schwartz and K. J. Coppersmith)
- II. *Intraplate regions I: Seismicity, lithospheric structure, and contemporary tectonics* (W. J. Arabasz)
- III. *Intraplate regions II: Earthquake risk, engineering seismology, and structural response* (R. K. McGuire)
- IV. *Regional seismic networks: Innovations, digital applications, and observations* (R. B. Herrmann)
- V. *Synthetic seismograms for two-dimensional velocity and Q-structure* (L. W. Braile)

## TECHNICAL SESSIONS

Due to the large number of papers, technical sessions will include poster displays for individual discussion as well as 15-minute oral presentations, including discussion.

## PROJECTION EQUIPMENT

Carousel projection equipment will be provided for 2" x 2" (35 mm) slides only. (Dual projectors will not be available.) Please bring your own loaded carousel trays; only a limited number of trays will be available at the meeting. Avoid glass-mounted slides.

## SOCIETY LUNCHEONS

GSA Cordilleran Section business luncheon (\$10.75) will be held at the Marriott Hotel on Tuesday, May 3, 1215 hours.

GSA Rocky Mountain Section business luncheon (\$10.75) will be held at the Marriott Hotel on Wednesday, May 4, 1215 hours.

Seismological Society annual luncheon (\$10.75) will be held at the Marriott Hotel on Tuesday, May 3, 1215 hours.

Paleontological Society Pacific Section wine and cheese reception (\$5.50) at the Marriott Hotel will follow Symposium B.

## GENERAL TRAVEL INFORMATION

The Salt Palace Convention Center is located in downtown Salt Lake City immediately southwest of Temple Square. The



# PREREGISTRATION DEADLINE: March 28, 1983

airport is a ten-minute ride from downtown by taxi. Bus service is available once an hour. Most hotels provide a shuttle service to the airport.

**Rocky Mountain Section GSA**

Dr. Stanley Beus  
Department of Geology, Box 6030, Northern Arizona University  
Flagstaff, AZ 86011

**Cordilleran Section GSA**

Dr. Martin Stout  
Department of Geology, California State University  
Los Angeles, CA 90032

**STUDENT FINANCIAL ASSISTANCE**

The Cordilleran and Rocky Mountain Sections of the GSA have allocated funds to subsidize travel costs for GSA Student Associate Members of those sections participating in the meeting. Student Associates delivering a paper or poster session should apply to their appropriate section by **March 28, 1983** for financial assistance. Application forms are available from:

**Preregistration for the meeting is required for a student to be eligible.** Successful applicants will be notified prior to the meeting. Awards may be picked up at the registration desk.

## PREREGISTRATION FORM

36th Annual Meeting, Rocky Mountain Section, GSA, 79th Annual Meeting, Cordilleran Section, GSA  
78th Annual Meeting Seismological Society of America  
Annual Meeting, Pacific Coast Section, Paleontological Society of America

**May 2-4, 1983, Salt Lake City, Utah**

**IMPORTANT**

1. Full payment must accompany registration.
2. Register one professional or student per form.
3. Your check will be your receipt. Copy this form for your records.
4. Preregistration deadline: **Must be postmarked no later than March 28, 1983.**
5. Refund policy: Written request must be received at University of Utah, no later than **April 7**. No refunds after April 7. Refunds subject to a \$5 processing fee.

**Please print or type**

Name (last, first, initial) \_\_\_\_\_

Registered as  Professional  GSA Student Associate  Other Student

If accompanied by guest, list name for badge \_\_\_\_\_

Address (street) \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone business ( ) \_\_\_\_\_ home ( ) \_\_\_\_\_

Institution or Company (abbreviate for badge) \_\_\_\_\_

Please circle affiliations: Rky. Mtn. GSA                      Cord. GSA                      SSA                      Paleo. Soc.

**REGISTRATION FEES**

Preregistration (by March 28) .....	\$35.00	\$ _____
Registration (after March 28)* .....	\$45.00	\$ _____
GSA Student Associate (by March 28) .....	\$ 3.00	\$ _____
GSA Student Associate (after March 28) .....	\$ 6.00	\$ _____
Student with ID (before or after March 28) .....	\$ 6.00	\$ _____

**PROFESSIONAL EVENTS**

	no. in party		
Cordilleran GSA Business Luncheon .....	_____	@	\$10.75
Rocky Mountain GSA Business Luncheon .....	_____	@	\$10.75
SSA Luncheon .....	_____	@	\$10.75
Paleontology Society Reception .....	_____	@	\$ 5.50

**FIELD TRIP TOTAL (Trip Nos. \_\_\_\_\_ )** \$ \_\_\_\_\_

**GRAND TOTAL** \$ \_\_\_\_\_

Make all checks payable to **GSA/SSA-SLC/83** and mail checks and preregistration form to:

S. H. Evans, Treasurer  
Department of Geology and Geophysics  
University of Utah  
Salt Lake City, Utah 84112-1183

\*Also, one-day registration (on-site only) will be \$30.00.

# CORDILLERAN & ROCKY MOUNTAIN SECTIONS, GSA

## FIELD TRIPS

All field trip registrants **must also** preregister for the meeting.

Field-trip registration is on a first-come, first-served basis. Field-trip preregistration **must be received in Salt Lake City by March 14, 1983**, accompanied by payment in full. On the attached form, registrants may indicate alternate choice(s) in the event that first choice is oversubscribed. If registrant's choices are oversubscribed, the full field trip registration fee will be refunded. If trips are cancelled because of low number of registrants or for reasons beyond our control, full refunds will be made. **The trips will start from and return to the Marriott Hotel, Salt Lake City, unless otherwise indicated.**

### Premeeting

**1. Geology of the Albion-Raft River-Grouse Creek Mountains area, northwestern Utah and southern Idaho.** (April 28-May 1). Leaders: D. M. Miller, R. L. Armstrong, R. R. Compton, and V. R. Todd.

The Mesozoic and Cenozoic development of a metamorphic core complex will be examined. Stops are planned to look at Precambrian and Paleozoic stratigraphy, the metamorphic and structural history of these rock units, the nature of emplacement and later deformation of Tertiary granite bodies, the character of Tertiary strata, and the nature of Tertiary low-angle faulting. Day 1 will emphasize the Mesozoic and Cenozoic metamorphic and structural development of the Albion Mountains, outlining alternative structural schemes for the terrane. Day 2 we will examine related structures in the Raft River and Grouse Creek Mountains, and then examine Paleozoic rock slices resting on Miocene strata in the Matlin Mountains. Day 3 we will examine Tertiary stratigraphy and structural relations between Tertiary fault slices and metamorphic rocks, along the west side of the Grouse Creek mountains. All meals and lodging provided. Includes two nights lodging in Burley and one night in Montello, three breakfasts and box lunches, two dinners, refreshments, transportation (vans), and guidebook. Leave April 28, 1600 hours, and return May 1, 1900 hours. **Limit: 40; Cost: \$222.**

**2. Mesozoic and Cenozoic sedimentary and tectonic history of the central Utah Overthrust Belt.** (April 30-May 1). Leaders: R. L. Bruhn, M. D. Picard, S. L. Beck.

This trip is a two-day excursion through the foreland thrust belt in the Wasatch Mountains and western end of the Uinta Mountains and Uinta Basin. Discussions will include the geometry and mechanics of thrust fault and fold systems, including the involvement of crystalline basement in the Wasatch Mountains. Also, the deep structure of the Uinta Mountains as inferred from near-surface structural geometry and crustal rheology will be discussed. We will also examine the relationship of Tertiary fault systems and basins to overthrust structure. Other topics to be covered include the study of synorogenic facies related to deformation, provenance of sandstones in relation to tectonic settings, and paleogeography during the Late Cretaceous, Paleocene, and Eocene. All meals and lodging included: one night lodging in Park City, Utah, one dinner, one breakfast, two box lunches, refreshments, transportation (bus), and guidebook. Leave Marriott Hotel on April 30, 0800 hours, return to Salt Lake City on May 1, 1830 hours. **Limit: 70; Cost: \$122.**

**3. Upper Proterozoic diamictites and volcanic rocks of the Pocatello Formation and correlative units, south-eastern Idaho and northern Utah.** (April 29-May 1). Leader: P. K. Link.

This trip involves extended walking stops to examine the best exposures of the Pocatello Formation and other diamictite-bearing units from Pocatello south to Ogden. The first day will be spent in the Pocatello area. We will study strata interpreted as subaqueous lodgement tillite, flow tillite, turbidites, tidal flat and shallow marine deposits. The first day involves two strenuous climbs of about 1000 feet. The second will contain stops at Red Rock Pass for an overview of the Lake Bonneville overflow site, at Twin Lakes east of Clifton, Idaho; Five Mile Canyon near Dayton, Idaho; and Perry Canyon south of Brigham City, Utah. We will examine Proterozoic pillow lava and several diamictite units. The tectonics of the Bannock Range and the Lake Bonneville Flood will be secondary topics. All meals and lodging provided. Includes transportation (vans), two nights lodging in Pocatello, 2 dinners, 2 box

lunches, 2 breakfasts. Leave April 30, 0800 hours from Quality Royale Motel, Pocatello, Idaho. Return to Salt Lake City, May 1, 1700 hours. Transportation (vans) from Salt Lake City to Pocatello is available from the Marriott Hotel, leave April 29, 1700 hours. **Limit: 30; Cost: \$154.**

**4. Holocene basalt volcanism along the Great Rift, eastern Snake River Plain, Idaho.** (April 29-May 1). Leaders: M. A. Kuntz, R. H. Lefebvre, D. E. Champion, J. King, and H. R. Covington.

The two-day field trip will investigate 2,000 year old basaltic lava flows and related volcanic features along the Great Rift in the eastern Snake River Plain, Idaho. The first day of the field trip will be in the complex vent area of the Craters of the Moon lava field in Craters of the Moon National Monument along the northern part of the Great Rift. The second day will be at Kings Bowl and Wapi lava fields along the southern part of the Great Rift. Remarkably well-preserved volcanic features will be studied in the field and related discussions will focus on the age of the volcanism, evolution of the complex Craters of the Moon lava field, volcanic and structural history of the Great Rift, and chemical evolution of the lavas. Includes lodging in Idaho Falls and Pocatello, two box lunches, refreshments, transportation (vans), and guidebook. Leave April 29, 1300 hours, and return May 1, 2000 hours. **Limit: 40; Cost: \$170.**

**5. Paleoseismicity along the Wasatch Front and adjacent areas, central Utah.** (April 30-May 1). Leaders: R. C. Bucknam, A. J. Crone, A. R. Nelson, D. D. Schwartz, F. H. Swan, and J. T. Sullivan.

Recent geologic and geomorphic studies have provided new insight into the late Quaternary and Holocene activity of faults along the Wasatch Front, in adjacent parts of the Basin and Range, and in the valleys east of the crest of the Wasatch Range. This trip will visit key sites along the southern Wasatch fault zone where estimates of the recurrence rates of large, potentially damaging earthquakes have been determined from detailed stratigraphic studies and exploratory trenching. At sites in Scipio Valley and the Drum Mountains, we will discuss the collection and application of morphometric data and related geologic studies to deciphering the history of fault movements. We will examine the problem of assessing the late Quaternary tectonic history of the fault-bounded back valleys where Quaternary deposits lack identifiable scarps. Included will be a stop at a trench exposing a valley-bounding fault. All meals and lodging provided. Includes lodging in Delta, two box lunches, refreshments, transportation (vans) and guidebook. Participants should note that the second day of the trip will be lengthy and may require an early morning departure. Leave April 30, 0730 hours, and return May 2, 1900 hours. **Limit: 38; Cost: \$107.**

### Postmeeting

**6. Timing and style of Tertiary extension and magmatism in east-central Nevada.** (May 4-May 7). Leaders: E. L. Miller and P. B. Gans.

The northern Egan, Schell Creek and Snake Ranges offer the unique opportunity to view the style and geometry of Tertiary extensional deformation as it affected different crustal levels. Imbricate down-to-the-east, shovel-shaped, normal faults in the Egan Range have rotated slices of the entire miogeocline over on their side. In the northern Schell Creek Range, large volumes of syntectonic intermediate to silicic volcanic rocks help constrain the timing of extensional faulting. In the Snake Range, an exhumed mid-Tertiary ductile-brittle transition zone

**PREREGISTRATION DEADLINE: March 28, 1983**

(the Snake Range decollement) separates an originally 6 km thick upper plate, thinned by two generations of down-to-the-east normal faults, from a lower plate that has been penetratively stretched. At deep structural levels in these ranges, Tertiary extension is superimposed on penetrative Mesozoic fabrics and plutons that provide insight to processes operative in the hinterland of the Sevier thrust belt. All meals and lodging provided. Includes lodging, campground fee, three breakfasts, three box lunches, four dinners, refreshments, transportation (vans), and guidebook. Hotel accommodations available for only a few participants for evening of May 6; tents and lanterns provided, but participants must provide their own sleeping bags. Several strenuous long hikes over rugged terrain. Leave May 4, 1700 hours, return May 7, 2200 hours. **Limit: 48; Cost: \$227.**

**7. Evolution of Early Mesozoic tectonostratigraphic environments — Southwestern Colorado Plateau to Southern Inyo Mountains.** (May 5-May 8). Leaders: J. E. Marzolf, G. C. Dunne, R. C. Blakey, L. T. Middleton, J. D. Walker, C. H. Stevens, M. S. Osborne.

Emphasis of this trip will be on spatial and temporal changes in

depositional environments reflecting changing magmatic and tectonic settings. Beginning in Zion National Park, we will examine the predominantly continental early Mesozoic section of the Colorado Plateau. Traveling westward to the Inyo Mountains, we will observe: (1) the Early Triassic continental to marine transition and evidence for shallow-to-deep marine deposition across a deformed carbonate terrain prior to the onset of volcanism, (2) the temporal transition from marine deposition to continental sedimentation and evidence for onset of early Mesozoic volcanism and tectonism, and (3) Late Triassic and Early Jurassic(?) facies changes from fluvial and eolian sediments westward to volcanics. Localities to be visited include: Zion National Park and vicinity; the Spring Mountains; the Mescal Range (Mountain Pass); the Cowhole and Soda Mountains; and Darwin Wash and Cerro Gordo Road in the Inyo Mountains. All meals and lodging/camping included in price. Includes transportation (vans), three breakfasts, box lunches and dinners, and guidebook. Leave from Marriott Hotel on May 5, 1200 hours, and end in Las Vegas, May 8. Participants who wish to return to Salt Lake City may ride vans back from Las Vegas. **Limit 37.** Option 1 (1st class) includes three nights lodging, Springdale, Utah; Gene, Nevada;

(continued next page)

**FIELD TRIP REGISTRATION FORM — 1983 GSA Western Sections, Salt Lake City, May 2-4**

**IMPORTANT:**

1. Field trip registrants must also register for meeting.
2. Each registrant must use a separate form.
3. Full payment must accompany registration.
4. Field trip preregistration deadline: *Must be received no later than March 14.*
5. Refund Policy: *Written request must be postmarked no later than March 24. No refunds after March 24. Refunds subject to \$5.00 processing fee.*

(Please type or print)

Registrant Name \_\_\_\_\_ Employer \_\_\_\_\_  
 Mailing Address \_\_\_\_\_  
 Phone ( ) home \_\_\_\_\_ ( ) business \_\_\_\_\_  
 \_\_\_\_\_ above will be used as address label \_\_\_\_\_

**FIELD TRIPS (circle first choice)**

**Premeeting**

	Date	Limit	Cost	Amount
1. Geology of the Albion-Raft River-Grouse Creek Mountains	April 28-May 1	40	\$222	\$ _____
2. Sedimentary and tectonic history of the central Utah Overthrust Belt	April 30-May 1	70	\$122	\$ _____
3. Upper Proterozoic diamictites, Pocatello Formation	April 29-May 1	30	\$154	\$ _____
4. Holocene basalt volcanism, Snake River Plain	April 29-May 1	40	\$170	\$ _____
5. Paleoseismicity along the Wasatch Front	April 30-May 1	38	\$107	\$ _____

**Postmeeting**

6. Tertiary extension and magmatism, east-central Nevada	May 4-May 7	48	\$227	\$ _____
7. Early mesozoic tectonostratigraphic environments, Colorado Plateau to Inyo Mountains	May 5-May 8	18	\$295	\$ _____
8. The geology in and near Canyonlands and Arches National Parks	May 4-May 6	50	\$160	\$ _____
9. Oligocene and Miocene magmatism, Utah and Nevada	May 4-May 6	40	\$192	\$ _____
10. Lake Bonneville	May 4-May 5	27	\$ 60	\$ _____
11. Upper Stillwater Dam Site	May 5	10	\$ 75	\$ _____
12. Engineering geology problems along the Wasatch Front	May 5	45	\$ 55	\$ _____

**INSTRUCTIONS**

Make check for field trips plus meeting registration payable to: *GSA/SSA-SLC/83* and mail check and both registration forms to:  
 S. H. Evans, Treasurer  
 Department of Geology and Geophysics  
 University of Utah  
 Salt Lake City, Utah 84112-1183

**Optional: If trip is filled, my other choices are**

Premeeting \_\_\_\_\_ Postmeeting \_\_\_\_\_  
 trip no. title trip no. title

# CORDILLERAN & ROCKY MOUNTAIN SECTIONS, GSA

## POSTMEETING FIELD TRIPS (continued)

and Death Valley, California. **Cost: \$295.** Option 2 (budget) includes camping at Zion N.P., Utah; Gene, Nevada; and Death Valley, California. Tents and lanterns will be provided, but participants must provide sleeping bags. **Cost: \$268.**

**8. The geology in and near Canyonlands and Arches National Parks.** (May 4-6). Leaders: D. L. Baars and John A. Campbell.

The scenic grandeur of the Canyonlands-Arches country is surpassed only by the fascinating geology of the region. This "red rock country" resulted from extensive exposure of colorful sedimentary rocks of Pennsylvanian through Jurassic age by the erosional stripping of the Colorado River drainage system. The two-day field trip will center at Moab, Utah and first explore the Canyonlands to the west and then the spectacular salt diapirs of the Paradox Basin to the east. The first day will feature magnificent overviews of the Canyonlands from Deadhorse and Grand View points, a look into the Upheaval Dome "salt dome," and a drive down through the stratigraphic section into Canyonlands via Shafer Trail. The second day will be a tour of four salt intruded anticlines: Moab Valley, Castle Valley, Onion Creek, and Salt Valley structures. The causes, mechanisms and growth histories of the diapirs will be visited. Includes two nights of lodging in Moab, two box lunches, refreshments, transportation (vans), and guidebook. Leave May 4, 1700 hours, and return May 6, 1900 hours. **Limit: 50; Cost: \$160.**

**9. Oligocene and Miocene magmatism in Southwestern Utah and adjacent Nevada.** (May 4-6). Leader: M. G. Best.

This trip will examine the contrasting nature of Cenozoic magmatic and tectonic activity in the central part of the Pioche-Marysvale igneous belt. Remnants of widespread intermediate-composition ash-flow sheets that spread over a large area of tectonically quiescent southwest Utah and adjacent Nevada during the Oligocene will be examined. The source of the voluminous Wah Wah Springs Tuff member of the Needles Range Formation was the enormous Indian Peak caldera that straddles the Utah-Nevada border. The northeast segment of the caldera ring fault and the landslide debris and tuffs that filled the caldera are well exposed in the east-tilted Needles Range. Miocene magmatism produced a bimodal mafic-silicic association. Silicic magmas—many notably enriched in F, Be, Mo, W, Sn—were emplaced as shallow intrusions and as viscous extrusive flows, usually preceded by explosive pyroclastic showers. Although no caldera formed during either of two Miocene magmatic episodes, extensional block faulting along a northeast trend occurred during the early Miocene magmatic pulse and controlled much of the hydrothermal activity associated with the silicic magmas. The Pine Grove porphyry bodies that host a disseminated Mo-W ore deposit at depth will be visited. Includes two nights lodging in Beaver, two box lunches, refreshments, transportation (4-wheel drive), maps and guidebook. Leave May 4, 1800 hours, and return May 6, 2200 hours. Stop will be made in Cedar City, Utah, on return trip for those who wish to catch a connecting flight to Las Vegas, Nevada. **Limit: 40; Cost: \$192.**

**10. Lake Bonneville stratigraphy, geomorphology, and isostatic deformation in west-central Utah.** (May 5). Leaders: D. R. Currey, C. G. Oviatt, and G. B. Plyler.

This all-day trip will focus on major details of the last deep-lake cycle, as interpreted from lithostratigraphic and morphostratigraphic evidence at selected localities in the central Bonneville Basin. Stops will include the Stansbury shoreline on Stansbury Island, the lower and upper sections of the Old River Bed, and the Stockton Bar and vicinity—all originally studied by G. K. Gilbert in the nineteenth century. The stratigraphy and age of type Stansbury deposits, of Gilbert's Yellow Clay and White Marl, and isostatic-geomorphic complexities at the Bonneville and Provo shorelines will be considered from the viewpoints of earlier workers and in the light of new data, including detailed stratigraphic sections, radiocarbon dates, and basin-wide shoreline mapping. Includes transportation (vans), box lunch, refreshments, and guidebook. In the event of unusually muddy conditions on outlying roads, it may be necessary to omit segments of this trip. Leave May 5, 0700 hours, return May 5, 2100 hours. **Limit: 27; Cost: \$60.**

**11. Geology of the Upper Stillwater Dam Site and Stillwater Tunnel.** (May 4-5). Leaders: J. L. Rogers and M. Deming.

Upper Stillwater Dam and Tunnel is the beginning of the Strawberry Aqueduct and a major water storage and collection feature designed to deliver water approximately 150 miles to the Wasatch Front. The dam will be a roller-compacted concrete gravity structure with a maximum height of 270 feet above the foundation. The crest of the dam will be at elevation 8175 and have a total length of approximately 2665 feet. The dam will have a vertical upstream face and a 0.6:1 downstream face. Stage I excavation has exposed bedrock along the length of the foundation for geologic mapping and final design evaluation. Includes transportation (bus), lodging, breakfast, box lunch, refreshments, and guidebook. Leave May 4, 1800 hours, return May 5, 1900 hours. **Limit: 10; Cost: \$75.**

**12. Engineering geology problems in populated regions along the Wasatch Front.** (May 5). Leader: B. Kaliser.

The field trip will examine a portion of the Wasatch Front in Weber, Davis, and Salt Lake counties with typical engineering geologic problems in the urban environment. We shall focus on the siting of critical facilities, earthquake effects, Great Salt Lake shoreline development, active faulting, water impoundments, recent landslides (1982 wet season), local subsidence, shallow combustible gas occurrences, aggregate sources, hydrocompaction and foundation problems in downtown Salt Lake City. Includes transportation (bus), box lunch, refreshments, and guidebook. Leave May 5, 0800 hours, return May 5, 1800 hours. **Limit: 45; Cost: \$55.**

## GUIDEBOOKS

A guidebook will be provided to each participant of a field trip. GSA field guides will be published in several volumes, each with a geologic province theme. These volumes will be on sale during the meeting. After the meeting, guidebooks may be purchased by writing *Utah Geological and Mineralogical Survey, 606 Blackhawk Way, Salt Lake City, Utah 84108.*

## EXHIBITS

Educational and commercial exhibits will be on display at the Salt Palace Center. The exhibit area will be open from 0900 to 1700 hours, Monday and Tuesday, May 2 and 3; and from 0900 to 1400 hours, Wednesday, May 4. For your added convenience, refreshments will be on sale in the exhibit area. Juices, milk, coffee, soft drinks, beer, sandwiches, and junk food will be available during exhibit hours.

For exhibit space, contact W. P. Nash, Exhibit Coordinator, Department of Geology and Geophysics, University of Utah, Salt Lake City, Utah 84112-1183; phone (801) 581-7162. The deadline for contracting booth space is **February 14, 1983.**

## INFORMATION CENTER

An information center will be maintained at the Salt Palace Center for transmitting messages, providing guides to restaurants and motels, and posting employment notices.

**Inquiries** for additional information should be directed to William P. Nash, Local Committee Chairman, Department of Geology and Geophysics, University of Utah, Salt Lake City, Utah 84112-1183.

**PREREGISTRATION DEADLINE: March 28, 1983**

**FAMILY AND SOCIAL ACTIVITIES**

Salt Lake City and vicinity offers a diversity of entertainment, recreational, and educational experiences for the entire family. We have selected a range of activities that we hope will appeal to our visitors. All tours leave from and return to the Salt Palace Center.

**Tour A. Salt Lake City Historical/Trolley Square Tour.** This tour blends Salt Lake's historic districts of yesterday with the urban metropolis, including Temple Square, Brigham Young's homes, the Beehive and Lion Houses, the mansions of South Temple, University of Utah campus, Fort Douglas, and the Utah State Capitol Building, widely recognized as one of the most attractive state capitol buildings in the nation. Pioneer Trail State Park portrays the pioneer migration with a recreation of a typical Salt Lake Pioneer Community, including Brigham Young's Forest Farm Home, a beautifully restored farmhouse filled with furnishings and artifacts of the period. Your tour will end at Trolley Square, the mission-style carbarns that once housed Salt Lake City's electric trolley cars and now comprise an exciting collection of speciality shops, restaurants, and theaters. You will have plenty of time for browsing and for lunch at one of the many fine restaurants. *Date: Monday, May 2, 1983. Time: 0800 to 1300 hours. Price: \$14 per person.*

**Tour B. Great Salt Lake/Kennecott Copper Mine.** This tour takes you to the world's saltiest body of water above sea level — The Great Salt Lake — and to the largest mining operation ever undertaken — the Kennecott Copper Mine. On your ride to Utah's Oquirrh mountain range, southwest of Salt Lake City, you'll see the world's largest man-made excavation. The mine's half mile depth could easily house two Empire State Buildings stacked on top of each other. The mine is currently two and one-half miles across. From the look-out point, your guide will show how the copper ore is mined and the equipment at work. The tour continues on to the Great Salt Lake, the remains of prehistoric Lake Bonneville. The Great Salt Lake is often called America's Dead Sea with a saline

content of twenty-six percent. *Date: Monday, May 2, 1983. Time: 1330 to 1730 hours. Price: \$14 per person.*

**Tour C. Bavarian "Oktoberfest" in May.** Snowbird Resort's setting lends itself perfectly to an exciting Alpine party, complete with breathtaking scenery. Your guide will point out interesting features as you journey toward the glacier-formed Little Cottonwood Canyon with its sheer granite cliffs and flowing stream. Snowbird boasts the largest aerial tram in the United States. The Swiss-made tram takes you to the top of 11,000 foot "Hidden Peak." This breathtaking trip gives access to spectacular mountain views. At Snowbird Plaza visit the many unique speciality shops. The Bavarian menu consists of such specialities as sauerkraut, knockwurst, bratwurst, hot German potato salad, marinated sausage salad, cinnamon spiced apples, onion potato pancakes, rotkol, rye rolls, black bread with mustard and butter, apple streudel and more. To make the evening complete, Horst Fidel will provide authentic German music. Dress casual and warm. *Date: Monday, May 2, 1983. Time: 1800 to 2200 hours. Price: \$35 per person.*

**Tour D. Heber Creeper Train.** "All aboard" the historic steam train—Heber Creeper. The private train, reserved especially for the Geological Society of America, will travel along the Provo River from Bridal Veil Falls to Heber City on a leisurely journey through some of Utah's most breathtaking mountains. At the Heber Creeper depot visit the museum and stroll through the streets and shops of the old western town which includes an old grocery store, saloon, handicrafts shop, jail, and other historic buildings. Upon return, you travel through Park City, one of Utah's historic mining towns and a world-renowned ski area. Then it's down from the high country through Parley's Canyon to Salt Lake City. Tour will include a box lunch, soft drinks, and wine. Don't forget your camera and a sweater or light coat. *Date: Tuesday, May 3, 1983. Time: 1130 to 1600 hours. Price \$26 per person.*

**Tour E. Great Salt Lake/Kennecott Copper Mine.** Repeat of Tour B. *Date: Wednesday, May 4, 1983. Time: 0900 to 1200 hours. Price: \$14 per person.*

**SITES AND SERVICES TOUR INFORMATION**

In order to assure a reservation on your desired tours, please enclose the tour reservation form, along with your check payable to:

Sites and Services  
445 East 200 South #16  
Salt Lake City, Utah 84111

Reservation tickets will not be mailed. Tickets will be held for you at the Sites and Services Tour Information Desk in the Geological Society of America registration area. No refunds or exchange of tickets may be made after April 22, 1983.

Tickets for tours will be sold during registration hours on a space-available basis at the Sites and Services desk. Check your tickets for departure point and time.

If less than the minimum number of persons respond to any tour, that tour will be cancelled and any money collected will be refunded.

Space available is limited, so to avoid disappointment, **send your advance reservations in as soon as possible.**

If you have any questions, don't hesitate to call us at (801) 521-2623.

**SITES AND SERVICES TOUR REGISTRATION**

Sites and Services, 445 East 200 South #16  
Salt Lake City, Utah 84111

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_

Hotel in Salt Lake City \_\_\_\_\_

**TOURS DESIRED:**

	Cost Per Person	Number Attending	Total
<b>Monday, May 2, 1983</b>			
Tour A. Salt Lake Historical/Trolley Square	\$14.00	_____	_____
Tour B. Great Salt Lake/Kennecott Copper Mine	\$14.00	_____	_____
Tour C. Bavarian "Oktoberfest" in May	\$35.00	_____	_____
<b>Tuesday, May 3, 1983</b>			
Tour D. Heber Creeper Train	\$26.00	_____	_____
<b>Wednesday, May 4, 1983</b>			
Tour E. Great Salt Lake/Kennecott Copper Mine	\$14.00	_____	_____

# CORDILLERAN & ROCKY MOUNTAIN SECTIONS, GSA

## Other Premeeting Activities For Your Additional Pleasure

### Friday and Saturday Evenings, April 29, 30.

*Utah Symphony Concert, featuring Symphony No. 2 by Mahler "The Resurrection."* The 85-piece Utah Symphony Orchestra is rated in the top 10 in the nation and will perform in the exquisite new concert hall adjacent to the Salt Palace. Tickets may be obtained from the Utah Symphony, 123 W. South Temple, Salt Lake City, Utah, 84101, (801) 533-6407

*Modern dance performance by the Ririe-Woodbury Dance Company.* Organized in 1957, and touring internationally since 1969, the Company has conducted nearly 100 residencies in all parts of the world. The Company represents the finest in modern dance movement, and will present all new works in their Spring Concert. The performances will be in the Capitol Theater, 1/2 block from the Salt Palace Center. Tickets may be obtained from Ririe-Woodbury

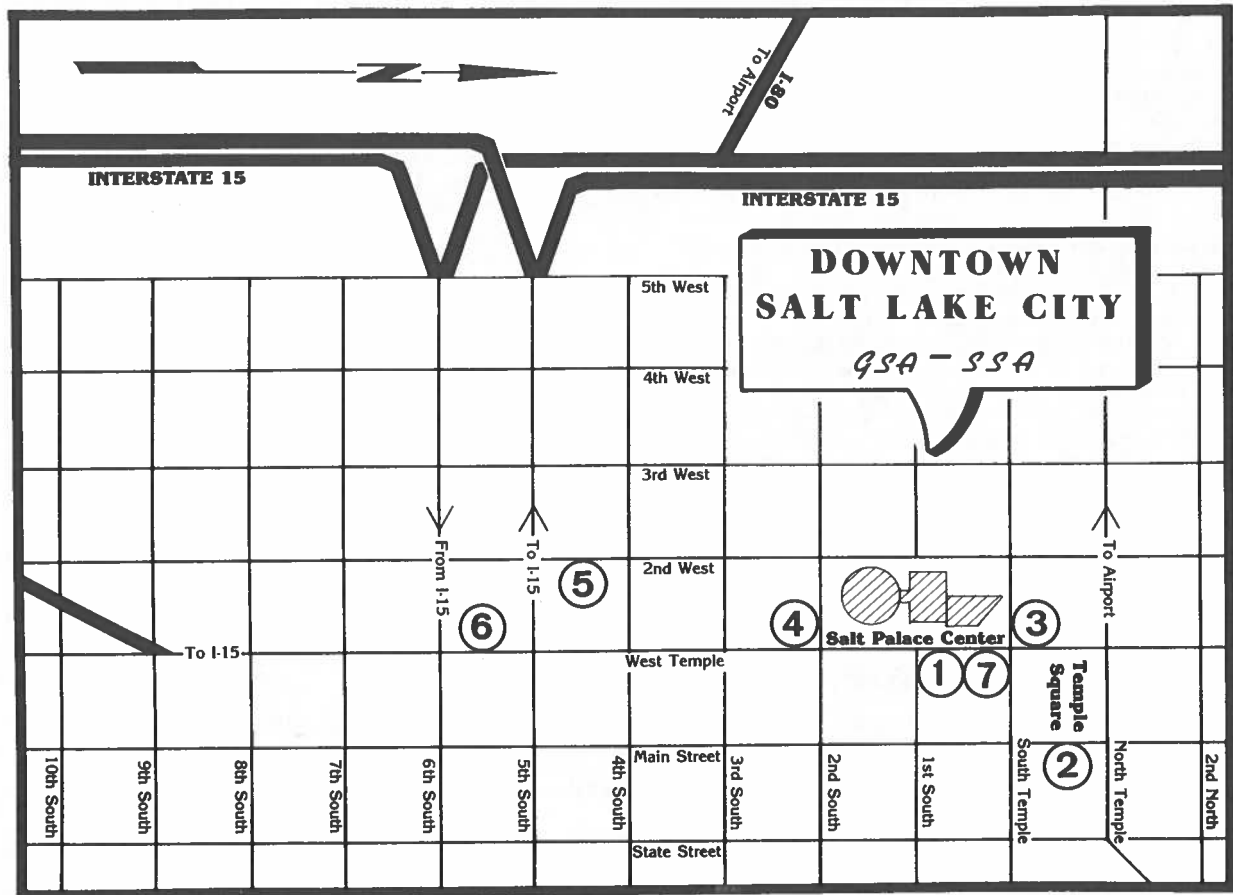
Dance Company, 50 W. 200 S., Salt Lake City, Utah 84101, (801) 328-1062.

### Sunday, May 1, 0900 hours.

*Mormon Tabernacle Choir performance in the Tabernacle at Temple Square.* There is no admission charge and plenty of seating is available.

### Pre-Conference Skiing.

Spring skiing is superb in the Wasatch, and Snowbird Resort is offering a premeeting ski package. Those interested should call Snowbird at (800) 453-3000. To obtain special discount rates please identify yourself as attendee of the Geological Society of America Meeting.



## ROOM RATES FOR OFFICIAL MOTELS AND HOTELS

Location by Map Number	Single	Double or Twin	Suites
(1) Salt Lake Marriott (convention headquarters)	\$52	\$64	\$150-\$240
(2) Hotel Utah	\$55	\$67	\$120-\$160
(3) Howard Johnson's	\$35	\$42	
(4) International Dunes	\$39	\$46	\$125-\$200
(5) Salt Lake Hilton	\$55	\$63	\$ 95-\$110
(6) Hilton Inn	\$45	\$53	\$ 75-\$ 85
<b>STUDENT HOUSING</b>			
(7) Temple Square Hotel	\$30	\$38	

### Campsite Information can be obtained by writing to:

Salt Lake Valley Convention & Visitors' Bureau, Suite 200, The Salt Palace, Salt Lake City, Utah 84101

**PREREGISTRATION DEADLINE: March 28, 1983**

**HOTEL RESERVATION INFORMATION  
HOTEL RESERVATION FORM**

36th Annual Meeting Rocky Mountain Section, Geological Society of America, 79th Annual Meeting Cordilleran Section, Geological Society of America  
78th Annual Meeting Seismological Society of America  
Annual Meeting of the Pacific Coast Section of the Paleontological Society

1. Requests for reservations should be mailed no later than March 28, 1983. Convention rates will apply until April 19, after which time, based on space available, regular published rates will apply.
2. Please use this official housing reservation form.
3. The GSA Housing Bureau in Salt Lake City will handle all reservations. **Do not call the hotels or the University of Utah for reservations.** They will only refer you to the Housing Bureau.
4. Room assignments will be made on a first-come, first-served basis.
5. If, after making reservations, you find it necessary to change them, write directly to your confirming hotel.
6. Cancellations should be made through the GSA Housing Bureau, in Salt Lake City until one week prior to convention.
7. Hotels may ask for a deposit at the time of confirmation. **Do not send a check with this Housing Form.**

**Fill out and mail this entire form, on or before March 28 to:**  
GSA Housing Bureau, c/o Convention & Visitors' Bureau, Suite 200, The Salt Palace  
100 South West Temple, Salt Lake City, Utah 84101

**SEND CONFIRMATION TO: (please print)**

Date this form filled out \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip Code \_\_\_\_\_ (area code) Telephone \_\_\_\_\_

**HOTEL PREFERENCES**

1st Choice \_\_\_\_\_ 3rd Choice \_\_\_\_\_

2nd Choice \_\_\_\_\_ 4th Choice \_\_\_\_\_

special requirements \_\_\_\_\_

<b>No. Rooms Required</b>	<b>Preferred Rate</b>	<i>If my hotel choices at preferred rates are no longer available, I would like:</i> <input type="checkbox"/> A room in my preferred hotel(s) at next available rate. <input type="checkbox"/> A room at my preferred rate in another hotel.
_____ Single: 1 Person/1 Bed	\$ _____	
_____ Double: 2 Persons/1 Bed	\$ _____	
_____ Twin: 2 Persons/2 Beds	\$ _____	

List names of all occupants. (Please bracket those sharing the same room.)

	Check here if Student	Arrival Date and Time	Departure date and Time
_____			
_____			
_____			

**Fill out and mail this entire portion on or before March 28, to:**  
GSA Housing Bureau, c/o Convention & Visitors' Bureau  
Suite 200, The Salt Palace  
100 South West Temple, Salt Lake City, Utah 84101  
**No telephone reservations will be accepted.**

## SPECIAL

Available in Limited Quantity

### Deltas — Their Application to Oil, Gas, and Coal Exploration

GSA Short Course Manual Provided for the 95th Annual Meeting  
October 17, 1982 — New Orleans, Louisiana

Speakers: John C. Ferm, Miles O. Hayes, Ram S. Saxena, Christopher H. Ruby  
*Edited and Organized by Ram S. Saxena, Geo Consultants International, Inc.*

163 p., includes maps, charts, and photographs (color & b/w).

**Price: \$20**

Description: This coursebook presents six papers. Ferm's essay on deltas discusses the historic development of geologic thought as it pertains to understanding deltaic sequences, and some of the pitfalls of old layer cake geologic interpretations in deltas. Saxena's paper summarizes, in detail, deltaic sand bodies and sequences and discusses exploration models for sand bodies that make petroleum reservoirs with emphasis on their recognition on subsurface data. Hayes's paper discusses depositional

models for barrier islands. Ruby's paper on barrier stratigraphy contrasts regressive and transgressive barrier islands. The last two papers are geared toward specific examples of economic application of sand body models. Ferm's paper shows an example from coal mines in West Virginia and Ruby's paper discusses an oil & gas application example from the south Louisiana subsurface. The concepts developed in the course will help explorationists in their pursuit of finding new reserves of oil and gas.

Make check payable to: 1982 GSA Annual Meeting. \$20 per copy + \$1 handling  
Mail to: GSA, P.O. Box 9140, Boulder, CO 80301

Enclosed is \$\_\_\_\_\_ for \_\_\_\_\_ copies of manual, "Deltas—Their Application to Oil, Gas and Coal Exploration."

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

Denver metro residents add 3 1/2% sales tax; Boulder residents add 5 1/2% sales tax; other Colorado residents add 3% sales tax.

#### MEMOIR 155

### The Geological Society of America — Life History of a Learned Society

By Edwin B. Eckel

with preface by Robert F. Legget

The Society's makeup, its governance, and its administration, including the management and preservation of its fortune, is presented in a topical rather than chronological form. This history reflects the methods, foibles, successes, and failures of the Presidents, Vice-Presidents, Councilors, and officers during the Society's 90 years. It is a fascinating record and fun reading.

Memoir 155, xiv + 168, 8½ x 11, hard bound, 133 photos, CIP, ISBN 0-8137-1155-X ..... \$24.50

#### MEMOIR 156

### Geology and Tectonics of the Lake Superior Basin

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**NEWLY REVISED FORMS  
FOR NOMINATION TO FELLOWSHIP**  
(approved by Council at the New Orleans 1982 Annual Mtg)

**NOMINATION TO FELLOWSHIP — NOMINATING SPONSOR'S FORM**

I wish to nominate the following Member of The Geological Society of America for election to Fellowship:

**Name** \_\_\_\_\_

**Affiliation and Title** \_\_\_\_\_

**Address** \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

**Telephone number** ( ) \_\_\_\_\_  
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Two other Fellows who know the professional qualifications of the nominee and who have expressed a willingness to evaluate them in the context of GSA Fellowship requirements are:

- |    | Name (please print or type) | Affiliated with * |
|----|-----------------------------|-------------------|
| 1. | _____ (FGSA)                | _____             |
| 2. | _____ (FGSA)                | _____             |

*\*Note: At least one sponsor must be from an organization other than that of the nominee.*

Please review the requirements for election to Fellowship given on the reverse side of this sheet. In the space below, provide your evaluation of the nominee's performance in appropriate areas (note that the committee will receive a copy of the nominee's vita and does not require repetition of the data included on it). The Committee on Membership cannot prepare an effective recommendation to Council unless each sponsor provides a critical evaluation of the ways in which the nominee has contributed significantly to the science of geology. For nominees whose major contributions are unpublished, the Committee depends heavily upon the depth and informative character of your evaluation.

\_\_\_\_\_  
Signature (FGSA) \_\_\_\_\_ Date

Please send completed form to the Membership Department at GSA (see other side)

**NEWLY REVISED CRITERIA FOR ELECTION TO FELLOWSHIP**  
**(APPROVED BY COUNCIL AT THE NEW ORLEANS 1982 ANNUAL MEETING)**

**CRITERIA FOR ELECTION TO FELLOWSHIP**

A Member of the Geological Society of America is advanced to Fellowship in recognition of significant contribution to the science of geology.

A Member can be nominated for Fellowship only by a Fellow of the Society who makes the nomination by completing the Nominating Sponsor's Form. The Nominating Sponsor should identify two other Fellows who agree to sponsor the nomination.

A nominee for Fellowship shall have had eight years of professional experience in geology or related fields. Graduate study may be substituted for a maximum of three years of these eight years. Except by specific action of the Council, an individual shall have been a Member in good standing for at least one year before becoming eligible for Fellowship.

In addition to professional experience, to meet the standards for Fellowship, the sponsors and nominee will document the significant contributions to the science of geology made by the nominee. The nature of the contribution may take many forms, and it is the responsibility of the sponsors and the nominee to adequately document the individual contribution so that the Committee on Membership can evaluate the nomination and prepare a recommendation to Council. Examples of ways in which one may make a contribution to the science of geology include (but are not limited to):

- A. *Publication of the results of geologic research.* This category should include the development of new data and interpretation of data in some aspect of geology reported in standard publications.
- B. *Applied research.* The practical application of geologic knowledge to significant problems concerning geologic resources, natural hazards, and/or environmental problems is an avenue of contribution to the science of geology that may be made by geologists in industry or governmental agencies at all levels.
- C. *Training of geologists.* Teaching of geology students in either graduate or undergraduate formal education programs potentially constitutes an important contribution to the science. Furthermore, participation in presentation of specialized training in applied programs, short courses, etc., may also be recognized. Preparation of educational materials (textbooks, laboratory manuals, short-course guides, field guides, etc.) may also constitute a contribution.
- D. *Administration of geological programs.* A wide range of administrative positions provides an opportunity to make a contribution to the geological sciences. These include, for example, administration of distinctive academic programs, leadership of research teams, coordination of research programs, supervision of industrial programs involving application of geologic principles, and in general, supervision of significant numbers of geologists as employees.
- E. *Public awareness of geology.* Presentations of geological work to governmental agencies (legislative bodies, courts, committees, etc.) as well as to the public in general may provide the basic support for important advances in geology.
- F. *Professional organizations.* Participation in the leadership of professional organizations or major scientific committees may provide for advancement of the science.
- G. *Editorial, bibliographic, and library responsibilities.* The dissemination of geologic knowledge contributes to the advancement of the science, and unique activities in these areas may provide qualification for Fellowship.
- H. *Other.* The opportunities available to Members of the Geological Society of America to make a contribution to the science of geology are as diverse as geologists and indeed as geology itself. Therefore, a nominee may present to the Committee on Membership activities which do not fit into any of the ordinarily prescribed categories.

This list is not intended to be exclusive or restrictive, but merely a set of examples. Furthermore, the categories listed are not intended to represent any order of importance. These categories are intended to exemplify the most common kinds of activities which nominees or their sponsors present as qualifications for Fellowship.

THE GEOLOGICAL SOCIETY OF AMERICA  
AND ASSOCIATED SOCIETIES



**1983**  
**ANNUAL MEETING**

***INDIANAPOLIS, INDIANA***  
***OCTOBER 31-NOVEMBER 3***

INDIANA CONVENTION CENTER and HYATT REGENCY HOTEL

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## INSIDE \_ \_ \_

Calendar of Penrose Conferences for 1983 and 1984 . . . . .	p. 20
Final announcements and preregistration forms:	
Combined meeting, Cordilleran and Rocky Mountain Sections . . . . .	p. 24



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