The Geochemical News

Biannual Newsletter of the Geochemical Society

Number 65 May 1984

Report from the President

The dominant, enduring contribution of our Society to science is Geochimica et Cosmochimica Acta. Consequently, the health of our journal is of paramount importance and should be reviewed periodically.

The present ongoing evaluation has shown very satisfactory fiscal efficiency. There are no page charges for publication although regular membership dues ($35 including $25 for a subscription), institutional rates ($340), and reprint costs ($40.50 for 100 copies of a 12-page paper) are each modest for a journal near 2300 pages per year. In addition to the annual indexes in the December issue, decennial indexes and biennial membership directories also are provided free.

The speed of publication compares favorably with similar journals and is another evidence of effective management. Publication times are guaranteed and routinely found to be within 120 days after acceptance of a paper, or $100 worth of Pergamon books is given to the senior author as compensation. Also, distribution by Lancaster Press is guaranteed to be before the twentieth day of the month of issue. Distribution is by air at no extra cost to the subscriber from Western Europe, Japan, Australia or New Zealand. When exceptional delays occur, they arise normally in the difficult-to-control review process where improved monitoring would be valuable to typically impatient authors. The current mean review time is 10 weeks, and we are now working on methods to reduce this interval.

The continued high quality of our journal is suggested by two observations. The number of manuscripts submitted is generally increasing, by 33% since 1979 leading to a total of 2300 published pages in 1983. The circulation also remains high at 3500 subscriptions and includes over 2000 personal subscribers, a number far greater than for competing journals.

Clearly, many geochemists have made effective contributions to this success, and recent cooperation by the editors under Denis Shaw, the Publications Committee under Ed Anders, the publisher Pergamon Press, and the printer Lancaster Press, continues to keep Geochimica an excellent journal. Nevertheless, the Publications Committee and the Executive Editor are not complacent and are carrying out a thorough evaluation of journal policy and practices for possible improvements. They would like to be responsive to the desires of the membership. Therefore, suggestions and comments would be welcome and should be sent either to me or to the Chairman of the Publications Committee, Edward Anders, Enrico Fermi Institute, University of Chicago, 5640 South Ellis Avenue, Chicago, Illinois 60637.

Hu Barnes, President

Meetings and Symposia

1984

July 28 - August 3 - Meteoritical Society Annual Meeting, Albuquerque, New Mexico. Information from Dr D.D. Bogard, Secretary, SN4, Geochemistry Branch, NASA Johnson Space Center, Houston, TX 77058.

August 4-14 - 27th International Geological Congress, Moscow. Information from Secretary General, 27th I. G. C., Institute of the Lithosphere, USSR Academy of Sciences, 22 Staromonetny, Moscow 109180, USSR. Telex: LITOS 411484. (Travel information available from American Geological Institute, 4220 King Street, Alexandria, VA 22302; Tel. 703-379-2480 or 800-336-4764.)

November 4-8 - Geochemical Society Annual Meeting, Reno, Nevada. (In conjunction with the 97th Annual Meeting of the Geological Society of America.) Includes: Organic Geochemistry Symposium (half day) - The Geochemical Imprint of Depositional and Diagenetic Environments (G.E. Claypool, convenor); Frontiers of Geoscience Symposium (full day, co-sponsored by the GSA Centennial Program) - Earth-Surface Chemical Cycles in the Geologic Past (R.A. Berner and C.B. Gregor, convenors); Awards Ceremony; Geochemical Society Distinguished Lecture - Oil Shales, Evaporites and Ore Deposits, by Hans Eugster, and the usual technical sessions for unsolicited papers. Details will be published in The Geochemical News No. 66 and in GSA News and Information Vol. 7 No. 8 (August 1984). Abstract forms from Abstracts Coordinator, GSA, P.O. Box 9140, Boulder, CO 80301 (Tel. 303-447-2020); Abstract deadline June 8, 1984. (Note: those intending to vote in the Presidential Election on November 6 should arrange to cast absentee ballots.)

November 13-15 - Ophiolites through Time. Nancy, France. Information from Jacqueline Desmons, Laboratoire de Pétrologie, Université de Nancy, B.P. No. 239, F-54506 Vandoeuvre-les-Nancy Cédex, France. Abstracts by 1 September 1984.

December 16-21 - American Chemical Society Annual Meeting, Honolulu, Hawaii. Symposia organized by the Division of Geochemistry: 1. Nuclear Chemistry and Meteoritics; 2. Marine and Estuarine Geochemistry; 3. Gas Geochemistry of Volcanism, Earthquakes, Geothermal Resources and Mineral Exploration; 4. Geochemistry of Fossil Fuels; 5. Mechanisms of Transformation of Organics in Sediments, Soils and Groundwater. Premeeting field trip to Hawaii Volcanoes National Park and Observatory. Information from Dr Thomas Wildeman, Program Chairman, Dept of Chemistry and Geochemistry, Colorado School of Mines, Golden, CO 80401. Tel. 303-273-3642.

1985

February 24-28 - Salts and Brines. New York. Information from William C. Larson, Twin Cities Research Center, Bureau of Mines, 5629 Minnehaha Ave S, Minneapolis, MN 55417. Tel. 612-725-3464.

October 27-31 - Geochemical Society Annual Meeting (in conjunction with GSA), Orlando, Florida (instead of Boston as planned previously, because the Boston Hynes Auditorium will be closed for renovation).

The Barringer Award

The Meteoritical Society has created a new award program in honor of the late Daniel Moreau Barringer (1859-1929), a pioneer in the field of meteoritics whose persevering studies finally convinced everyone that the large crater near Canyon Diablo in Arizona, which now bears his name, had been caused by the impact of an extraterrestrial body. The program is financed by a fund established by the Barringer Crater Company and administered by Arizona State University through its Center for Meteorite Studies. The award is to be made annually for outstanding work in the field of terrestrial impact cratering; it consists of an inscribed medal, known as the Barringer Medal, and a stipend. It is expected that the first Barringer Award will be made at the Society's 47th Annual Meeting in Albuquerque, New Mexico (July 29-August 3, 1984). For further information apply to the Chairman of the Selection Committee, Dr John W. Larimer, Dept of Geology, Arizona State University, Tempe, AZ 85287.

International Association for Great Lakes Research (IAGLR)

IAGLR is a multidisciplinary organization whose objectives are to promote and publish research on the Great Lakes and other large lakes of the world. It holds one scientific meeting a year, and publishes the Journal of Great Lakes Research. The Journal is available as a complete, 24-issue set containing Volumes 1-8 (1975-1982) for $120 (US). The index is sold for $5, or free with orders for $50 or more. Issues devoted to special topics are as follows: Niagara River Pollution Problem (1983, 232 pp.), $5; Contaminants and Surface Films (1982, 137 pp), $5; Ecology of Filamentous Algae (1982, 237 pp.), $15; Long Point Bay-Nanticoke (1981, 162 pp.), $5; Limnology of Lake Superior (1978, 308 pp.), $5; Atmospheric Contribution (1976, 225 pp.), $5. Membership in IAGLR includes a subscription to the Journal, and is available in three categories: member ($25), student ($15) and library ($50). Membership applications and orders for back issues should be directed to Mr William L. Richardson, US EPA, Large Lakes Research Station, 9311 Groh Road, Grosse Ile, MI 48138. Payment should accompany all orders.

Overseas Councilors

The visits of overseas councilors, a result of the Amendment to the By-Laws (November 16, 1980) requiring that two councilors reside outside North America, continues to benefit the scientific community here. Last fall Prof. Yehoshua Kolodny made a lecture tour that included Lehigh, McMaster, Ohio State and Yale Universities, as well as the Geological Society of Washington and the USGS at Reston. His topics were: Oxygen Isotopes in Phosphates, and Combustion Metamorphism and the Mottled Zone. For the fall of 1984 Prof. Kolodny has made plans to visit Columbia and Princeton Universities, Scripps, and the USGS at Denver. One more visit might be added; anyone interested should write to Prof Kolodny, Dept of Geology, Hebrew University, Jerusalem, Israel, and should be prepared to meet the expenses of board and lodging for the visit and travel from the nearest point on Prof. Kolodny's itinerary.

Continental Scientific Drilling

(Excerpted from Drilling Early Warning, DEW, by Bruce Doe)*

Proposed research drilling in the Salton Sea geothermal field

The Continental Scientific Drilling Committee announces an opportunity for participation in a proposed project for research drilling into a hydrothermal-magma system in the delta of the Colorado River. According to the Principal Investigator, Wilfred A. Elders of the University of California at Riverside:

"A 5.5-km deep well is proposed, which would be the deepest geothermal well in the world, in one of the hottest and most saline geothermal fields known. Unless temperature reversals occur, bottom hole temperatures should exceed 400°C. Investigators interested in participating in this project are encouraged to contact Elders for further information and to submit their proposals to the appropriate funding agencies.

"By the end of 1983, Republic Geothermal, Inc., plans to begin drilling a series of production wells in the eastern part of the Salton Sea geothermal field, to supply steam to a power plant to be constructed by Ralph M. Parsons Co. The first well in the series, planned to reach 3.7 km, will be the deepest yet drilled in this field. Temperatures in the two nearest completed wells, which bracket the site of the proposed well, reached 285°C at 2800m, with a linear temperature gradient of .087°C/m. Fluids produced from these wells were sodium, calcium and potassium chloride brines with 250,000 ppm total dissolved solids, and with high metal contents similar to brines from other parts of the field.

"Republic Geothermal responded favorably to a request from investigators at the University of California, Riverside, to make this well available for scientific studies before it is brought on line as a steam producer. Accordingly, a three-phase project was proposed. In Phase 1 of the project, a series of five cores, cuttings, repeated water samples, and a comprehensive suite of wireline logs would be collected in the 3.7-km well. The lower 150m would be cored continuously, testing new core retrieval techniques.

"If drilling begins at the end of 1983, Phase 2 would begin by the end of 1984, at which time the well would be re-entered and cored continuously to a total depth of 5.5 km. Comprehensive suites of wireline logs would be taken, and several drill stem tests would be attempted. This would be followed by a fracture stimulation test. During the succeeding nine months, further scientific downhole tests would be possible; this phase would be ended by bringing the well into production.

"Phase 3, beginning about the same time as Phase 2, is the acquisition of other data from the deepened hole and scientific study of all the samples and data. It is for this phase that proposals to participate in the project are now being sought.

*Received in September 1983 after The Geochemical News had gone to press.

"Initiation of the project is subject to final negotiations with Republic Geothermal and its partners. Proposals to fund the first two phases of the project are under review by the appropriate federal agencies. Although this funding is not yet firm, specific plans for the scientific investigations in the deepened hole (Phase 3) must be initiated immediately. Scientists interested in participating in Phase 3 should contact one of the following:

Wilfred A. Elders, Principal Investigator - tel. 714-787-4501

Lewis H. Cohen, Co-Principal Investigator - tel. 714-787-5029

or write to The Salton Sea Scientific Drilling Project, Institute of Geophysics and Planetary Physics, University of California, Riverside, CA 92521, USA."

The Continental Scientific Drilling Committee (CSDC) issues on occasion the DEW Newsletter describing various research opportunities and items of interest concerning continental scientific drilling. If you wish to be added to the mailing list or would like further information about CSDC, please contact Bob Andrews, CSDC Staff Officer, National Academy of Sciences, 2101 Constitution Avenue NW, Washington, DC 20418 (tel. 202-334-3350).

Intersocietal Committee on Instrumentation in Geochemistry and Mineralogy

(From Bruce Doe)

Following a recommendation of an ad hoc subcommittee of the Geological Sciences Board, National Academy of Sciences of the USA, an intersocietal Committee on Instrumentation in Geochemistry and Mineralogy (ICIGM) is being organized. At its May 30 1983 meeting, Council endorsed the Geochemical Society's participation in ICIGM, and Bruce R. Doe was appointed as our representative. Doe has prepared a second preliminary report on isotopic instrumentation, copies of which (and further information) can be obtained by writing to him at MS 981, U.S. Geological Survey, Reston, VA 22092.

Cooperation in Geochemistry between the USA and the People's Republic of China

In 1982 the Committee on Scholarly Communication with the People's Republic of China (CSCPRC) appointed a US-China Geochemistry Steering Committee consisting of Robin Brett (Chairman), Gerald J. Wasserburg (Vice Chairman), Edward Anders, Robert N. Clayton, Hans P. Eugster, Karl K. Turekian and David R. Wones. The Committee was appointed for a two-year term "to work with both American and Chinese geochemists in planning future collaborative work in a systematic manner." Five members of the Committee had visited the People's Republic of China in 1981, and a return delegation of six Chinese geochemists visited the USA last fall to tour a number of laboratories and to participate in a half-day symposium at the GSA annual meeting on "Some Geochemical Problems in the People's Republic of China." The Chinese are interested in cooperative research projects, in sending students and senior scientists to the USA and, eventually, in organizing joint USA-Chinese workshops on specialized topics.

The National Science Foundation has a special program for cooperative research in China. Those interested should write to NSF, Washington, DC 20550, for "US-China Cooperative Science Program: Program Announcement and Guidelines for Preparation of Proposals." The US-China Geochemistry Steering Committee would like to know of two-year openings for Chinese geochemists in US institutions, and would welcome suggestions for future workshop topics. Write to Robin Brett, U.S. Geological Survey, Reston, VA 22092, or call him at 703-860-7428.

Obituary

John Hower, 1927-1983

John Hower was born in Englewood, New Jersey, on December 2nd 1927. He graduated (summa cum laude) from Syracuse University in 1952, and received the Ph.D. degree from Washington University, St Louis, in 1955. After working for two years at the Amoco Research Center in Tulsa, he joined the faculty at the University of Montana in 1957, remaining there (except for a year spent at the Massachusetts Institute of Technology in 1960-1961) until 1965. From 1965 to 1976 he was at Case Western Reserve University, with a leave in 1967-1968 when he went as a visiting professor to the University of Paris. He left Case to become director of the National Science Foundation's Geochemistry Program, a post he held for two years before returning to academic life as chairman of the Geology Department at the University of Illinois. He died on September 20th 1983, and is survived by his wife Joann and their three children Mark, Brigitt and Gretchen.

Hower was associate editor of Clays and Clay Minerals (1972-1976), and associate editor of the Journal of Sedimentary Petrology (1981-1983). He served on several committees of the National Science Foundation, including the Earth Science Review Panel (1981-1983), the Earth Science Advisory Committee (1981-1983) and the Director's Advisory Committee on Crustal Studies (1983), as well as on the Ocean Margin Drilling Committee of the National Academy of Sciences (1980-1982). He was president of the Clay Minerals Society in 1976-1977. Hower and his collaborators made fundamental contributions to the study of clays both in crystal chemistry (by elucidating structural relations within the illite-mixed layer illite/smectite group and between illite and the true micas) and in geochemistry (with their brilliantly conceived and superbly executed work on Gulf-Coast well cuttings). In the latter field they were able to show that the main reaction in burial metamorphism (diagenesis) of argillaceous sediments is largely isochemical and can be represented by:

smectite + Kspar = illite + chlorite + quartz

The trends observed in mineralogy and major-element composition with depth in the sediment were found to be the same as those seen in general among argillaceous rocks of increasing geologic age, implying that the latter reflect the time-dependence of burial metamorphism rather than any secular change in source material or geologic conditions. The principal papers dealing with these two lines of investigation were published in the American Mineralogist (1966), Clays and Clay Minerals (1970) and the Geological Society of America Bulletin (1976).

A correspondent writes:

"John was a superb teacher whose students remembered their lessons. As one of them put it, 'He thought aloud so lucidly that we could carry home his ideas without their falling apart on the way.' Himself unassuming, he scorned pretentious terminology and could parody it to advantage. Of mixed-layer clays he said one day, 'There are three things: illite, smectite and alligators.' The hydroxyl-aluminum interlayers in chlorite were called 'freds.' In the years that followed, more than one participant at a clay minerals conference must have vainly searched his glossary for these mysterious terms. He used education in the service of science by making friends and collaborators of his students, working with them, playing with them (practical jokes in the laboratory, volleyball in the gym), caring for their wellbeing, all the while gently forcing them to sharpen their minds so as to play their own part in the new studies that were bringing clay, once the Cinderella of the mineral kingdom, to the forefront of sedimentary geochemistry and petroleum source-rock technology.

"The sun shone bright for John, but there were shadows. His soft-spoken, slight-built person embodied a complex, lovable and, in the end, tragic character at once puritan and romantic, vulnerably idealistic, intensely preoccupied with human values. The years of his success were also a time of inner conflict, of failed efforts to reconcile the way things were with the way they ought to have been. More than once in weariness he sought freedom in 'the mildest form of life;' and, finally, he found it. John was a strong man with rigid principles who judged people perhaps too quickly and harshly, at least near the end of his life. He also was capable of great love, support and humor, and he was a brilliant experimentalist and theoretician. Not everyone liked him, but he received great admiration and respect from those who did. To many of his students he was more than a teacher, and they will always be better (whatever 'better' means; when he was young, John was sure that he knew) because of their relationship with him. He was a man of consequence."

Alfred Treibs, 1899-1983

Alfred Treibs, whose discovery of porphyrins in oil-bearing rocks in 1934 proved the biological origin of petroleum, and in whose honor the Treibs medal of the Society is awarded for major achievements in organic geochemistry, died last October. A full obituary notice by Earl W. Baker will appear in Geochimica et Cosmochimica Acta.

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