



The Geochemical News

Newsletter of the Geochemical Society

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Inquiries and announcements regarding *Geochemical News* should be sent to David J. Wesolowski, Oak Ridge National Laboratory, Chemistry Division MS 6110, PO Box 2008, Oak Ridge TN 37831-6110 USA. Submission of material by facsimile (423-574-4961) or electronic mail (dqw@ornl.gov) is encouraged. Items for the Geochemical Society's World Wide Web Page may be submitted to Steve Shirey at shirey@dtm.ciw.edu. The Web Page address is: http://www.ciw.edu/geochemical_society/

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LETTER TO GEOCHEMICAL SOCIETY MEMBERS FROM PRESIDENT TONY LASAGA

The Geochemical Society is continuing to promote geochemistry worldwide in a number of ways. First, the Fifth Goldschmidt Geochemistry conference was held at Penn State University, University Park, Pa on May 24-27. Thanks are in order to Hu Barnes and Peter Deines for helping to make it a success! At the same time, the next Goldschmidt Conference is in full preparation already and will be held at the University of Heidelberg, Heidelberg, Germany on Mar 31-April 4, 1996. The conference secretary is Dr. Volker Brzezinski at the University of Heidelberg. You can e-mail queries to gold-conf@geobar.mpch-mainz.mpg.de I am also happy to announce that Mike Drake has graciously accepted the task of setting up the Goldschmidt Conference in 1997 at the University of Arizona, Tucson, Arizona. Stay tuned for upcoming details of the first Western US Goldschmidt Conference!

I want to remind everyone that this year the Geochemical Society celebrates its 40th birthday! There will be a special symposium on "Frontiers in Geochemistry" (see symposia list below) at the GSA meeting in New Orleans (Nov 5-9). In addition, on Tuesday night, November 7, there will be a gala party (see additional details in the newsletter). So plan to attend GSA and join us in this special event!

The negotiations with Pergamon Press over *Geochimica et Cosmochimica Acta* are still going on. We have not been able to resolve the very important question of dues for the journal. The upcoming contract involving *Geochimica et Cosmochimica Acta* involves both the Geochemical Society and the Meteoritical Society. A big part of the planned increase in price stems from the huge growth in the number of pages of the journal. Many of us feel that a reduction in the number of pages based on the quality of the papers would both make *Geochimica Acta* more valuable to the readers and also argue effectively for a reduction in the proposed dues. Because this point has been argued both ways, it is important to hear the views of the membership. Thus, would you pay more (say more than \$110) and keep *Geochimica et Cosmochimica Acta* at current page number levels or would you rather pay a lower price and reduce the number of pages in the journal? (see below for an internet way to give us feedback). At this point, it is fair to say that we are still looking at all the alternatives, including going with some other society or starting our own journal. Frank Podosek heads the joint publication committee (for GS and Meteoritical Society) and Bruce Doe is heading a separate committee to advise the Geochemical Society. I feel it is very important to hear from our membership on this critical issue!

To facilitate interaction between the members of the society, an electronic WWW page is setup to enable feedback from our members on the GCA issue (http://www.ciw.edu/geochemical_society/). This site will also provide access to membership forms, list of GCA papers and Associate Editors and ordering of special publications among other things. The society hopes to increase communications between its members by providing a stop on the info superhighway. Hope to hear from you!

Tony Lasaga
President

UPCOMING MEETINGS OF INTEREST TO GEOCHEMICAL SOCIETY MEMBERS

Nov. 4-5, 1995: *MSA Short Course: Weathering Kinetics of Silicate Minerals* New Orleans, LA. Contact: Art White, USGS, MS-420, 345 Middlefield Road, Menlo Park, CA 94025, or Susan Brantley, Penn. State Univ., College of Earth & Mineral Sciences, 209 Deike Bldg., University Park, PA 16802.

Nov. 6-9, 1995: *Annual GSA Meeting* New Orleans, LA. Abstract deadline: July 12, 1995. Contact: GSA Meetings, 3300 Penrose Place, Boulder, CO 80301. Tel: 1-303-447-2020, Email: ncarlson@geosociety.org

Nov. 19-22, 1995: *Geology and ore deposits of the Pacific Rim* PACRIM'95, conf., Auckland, New Zealand. (Charmayne Perera, The Australasian Inst. of Mining and Metallurgy, Box 122, Parkville, Victoria 3052, Australia. Tel: 61-3-347-3166, fax: 61-3-347-8525. Email: j.mauk@auckland.ac.nz)

Dec. 9-10, 1995: *MSA Short Course: Structure, Dynamics, and Properties of Silicate Melts* San Francisco area. Contact: D. B. Dingwell, Bayerisches Geoinstitut, Universitaet Bayreuth, 95440 Bayreuth, Germany, don.dingwell@uni-bayreuth.de or P. F. McMillan, Dept. of Chemistry, Arizona State Univ., Stanford, CA 94305 USA, mcmillan@asu.chm.la.asu.edu, or J. F. Stebbins, Dept. of Geological and Environmental Sciences, Stanford Univ., Stanford, CA 94305 USA, stebbins@pangea.stanford.edu.

Dec 10-15, 1995: *American Geophysical Union Fall Meeting* San Francisco, CA. Information: AGU Meetings Dept., 2000 Florida Ave., N.W., Washington, DC 20009, (202)462-6900, fax(202)328-0566, Email: sbell@kosmos.agu.org.

Jan. 4-6, 1996: *Magmatic processes: experimental approaches*, Mineralogical and Geological Societies of Great Britain, University of Bristol, Bristol, UK. Abstracts deadline: Sept. 30, 1995. Contact: Ethel-Jane Cormack, Dept. of Geology Wills Memorial Bldg., University of Bristol, Queens Rd., Bristol BS8 1RJ England. Tel: +1-44-117-925-3385, email: Ethel-Jane.Cormack@bris.ac.uk

March 6-7, 1996: *Mid Ocean Ridges: Dynamics of Processes Associated with Creation of New Ocean Crust*, Royal Society of London Discussion Meeting, London, England. Contact: J. Cann/H. Eldenfield/A. Laughton. Tel: 44-1223-333406, fax: 44-1223-333450, email: joe@earth.leeds.ac.uk

March 18-22, 1996: *Lunar and planetary science* conference, Houston, by the Lunar and Planetary Institute, and the NASA Johnson Space Center. (LeBecca Simmons, LPI Publications and Program Services Dept., 3600 Bay Area Blvd., Houston, 77058-1113. Tel: 1-713-486-2158.

March 31-April 4, 1996: *6th V.M. Goldschmidt conference*, An International Conference for the Advancement of Geochemistry, Univ. of Heidelberg, Germany, Organized by The European Association of Geochemistry and co-sponsored by The Geochemical Society. Response to First Circular: Sept. 15, 1995. Abstracts due at the conf. office: Dec. 15, 1995. Hotel registration: Feb. 15, 1996. Conf. Secretary: Volker Brzezinski, Laboratorium für Geochronologie, Ruprecht-Karls-Universität Heidelberg, Im Neuenheimer Feld 234, 69120 Heidelberg, Germany. Fax: 49-(0) 6131-371051. Email: goldconf@geobar.mpch-mainz.mpg.de

April 8-12, 1996: *Spring Meeting of the Materials Research Society*, San Francisco, California. Details: Material Research Society, 9800 McKnight Rd., Pittsburg, PA 15237. Tel: 1-412-367-3003; Fax: 1-412-367-4373; Email: info@mrs.org. Abstracts deadline: November 1, 1995.

April 10-13, 1996: *6th International Symposium of Experimental Mineralogy, Petrology, and Geochemistry (EMPG-VI)* Bayreuth, Germany. Abstract deadline: Dec. 1, 1995. Contact: Organizing Committee EMPG-VI, Bayerisches Geoinstitut, Universität Bayreuth, D-95440 Bayreuth, Germany.. Tel: 49-921-553-769, FAX: 49-921-553-769.

May 6-10, 1996: *European Geophysical Society*, general assembly, The Hague, Netherlands. (EGS Office, Postfach 49, Max-Planck-Str. 1.37189 Katlenburg-Lindau, Germany. Tel. +49-5556-1440. Fax: +49-5556-4709. Email: egs@linax1.dnet.gwdg.de) Abstracts deadline: Dec. 15.

May 19-22, 1996: *American Association of Petroleum Geologists*, ann.mtg., San Diego. (AAPG Convention Dept., Box 979, Tulsa, Okla. 74101. Tel. 1-918-584-2555)

May 27-29, 1996: *Geological Association of Canada/Mineralogical Association of Canada* Winnipeg, Manitoba R3T 2N2, Canada. Tel: 1-204-474-8857, FAX: 1-204-261-7581.

July 22-28, 1996., *Fourth International Symposium on Geochemistry of the Earth Surface* Inkley, Yorkshire, England. Contact: GES-IV Conference Secretariat., Dept. of Continuing Professional Education, Leeds Univ., Leeds LS2 9JT. Tel: 011322 333 241, FAX: 01132 333 240.

Aug. 4-1, 1996: *30th International Geological Congress* Beijing, China. Contact: Z. Xun, Deputy Secretary General, 30th International Geological Congress, PO Box 823, Beijing 100037, Peoples Republic of China, Tel: 86-1-832-7772, FAX: 86-1-832-8928.

Aug. 9-15, 1996: *17th General Meeting of the International Mineralogical Association*, Toronto, Canada. Details: A.J. Naldrett, Dept. of Geology, University of Toronto, Toronto, Canada M5S 3B1; Tel: 1-416-978-3030; Fax: 1-416-978-3938; Email: ima98@quartz.geology.utoronto.ca

Aug. 20-24, 1996: *Platinum-Group Element Geochemistry—The State of Art and Future Direction*, Geochemistry Division of the American Chemical Society. Chicago, IL, USA Contact: Scott A. Wood. Tel: 1-208-885-5966, fax: 1-208-885-5724, email: swood@idui1.csr.v.uidaho.edu. (Abstracts due May 1, 1996)

Aug. 29-31, 1996: *Colston Research Symposium on the History of Degassing of the Earth*, Bristol, England. Deadline for expressing interest in presenting: Oct. 31, 1995. Contact: Margaret Wilkins, Dept. of Geology, University of Bristol, Bristol BS8 1RJ England. Email: Margaret.D.Wilkins@bris.ac.uk

The Geochemical Society



40th ANNIVERSARY
1955-1995

1995 Annual Geological Society
of America Meeting
Nov 6-9, New Orleans, LA

- ◆ Short Courses, Symposia, Theme Sessions!
- ◆ Frontiers in Geochemistry Session
- ◆ 40th Anniversary Party

Join other members of the Geochemical Society in celebration of its fortieth anniversary at the Society's last cosponsored geochemical meeting this year.

SPRING MEETING OF GEOCHEMICAL SOCIETY BOARD OF DIRECTORS

The 1995 fall meeting of the Board of Directors of the Geochemical Society will be held Sunday, November 5, 1995 from 6:00-10:00 pm in New Orleans, LA just before GSA Annual Meeting. The tentative room assignment is still uncertain at Press time.

LOSSES

The Geochemical Society regrets the recent passing of three of its members. **J. Chris Roddick** 51, isotope geologist with the Canadian Geological Survey, died on February 23, 1995 in a tragic skiing accident in Vermont. Roddick was known for his work with Rb-Sr isotopes, $^{40}\text{Ar}/^{39}\text{Ar}$ dating, U-Pb zircon geochronology and numerical methods in isotope geology. At the time of his death, he headed the Survey's $^{40}\text{Ar}/^{39}\text{Ar}$ laboratory and was spearheading the purchase and installation of its new SHRIMP II. He had active research projects in various parts of the Canadian Shield. He is survived by his mother, his wife, three sons and two sisters. (Michael Hamilton, Geological Survey of Canada).

J. Robert Moore, a geologist and oceanographer who was an expert on marine mining, died March 25, 1995 at this home in Austin, Tex. He was 69. The cause was complications from colon cancer, said his wife, Dorothy Taylor Moore. In an academic career of nearly 30 years, Dr. Moore directed university research institutes in Wisconsin, Alaska and Texas before retiring last year as professor of marine science at the University of Texas in Austin. A graduate of the University of Houston

in 1951, he earned a master's degree in geology from Harvard University in 1954. Before receiving his Ph.D. in geology and oceanography from the University of Wales in 1964, he worked for Texaco in the United States as a senior scientist. While studying at Wales, he was the chief geologist of a British program to explore for manganese nodules and other minerals in the Irish Sea. In 1966 he became a professor of geology at the University of Wisconsin in Madison, where he founded and directed the Marine Research Laboratory and the Underwater Minerals Program. While at Wisconsin, he also founded the Underwater Mining Institute, which publishes *The Journal of Marine Mining*. He was the institute's chairman and the journal's editor in chief until 1994. Dr. Moore also was director of the Marine Science Institute at the University of Alaska in Fairbanks from 1977 to 1979 and the chairman of the marine science department and director of the Marine Science Institute at the University of Texas from 1979 to 1981. Besides his wife, he is survived by his mother, Mary Louise Moore of San Marcos, Tex., and a stepdaughter, Leslie Marie Taylor of Austin. (Copyright © 1995 by The New York Times Company. Reprinted by permission).

Thomas Carl Hoering (1925-1995) died July 22, 1995 after a 9-month bout with brain cancer. From 1959 onward, Hoering was a staff scientist at the Carnegie Institution of Washington's Geophysical Laboratory, where he pioneered techniques for studying fossil molecules in rocks and petroleum. His work first came into prominence in 1961, when, working with Philip Abelson, he devised techniques for studying the movement of carbon isotopes during geological processes. This work led to his discovery of ancient organic molecules in Precambrian rocks; Hoering was able to deduce details of photosynthetic processes that took place more than two billion years ago. Hoering's research also touched on key societal concerns, including the chemistry of soils, the geological process of petroleum formation, and the origins of pollution in the Chesapeake Bay. Recently he was also active in the debate regarding the preservation of fossil DNA; Hoering argued that some reputed "dinosaur DNA" could not persist stably for tens of millions of years and thus represented modern contamination.

Hoering was past chairman of the Organic Geochemistry Division of the Geochemical Society, and he received the Society's 1987 Alfred Treibs Medal for his pioneering research. In May 1995, he was honored by a three day conference, dubbed the "Hoering Fest," which was attended by 100 research scientists from around the world.

Hoering, who lived in Northwest Washington, was born on May 4, 1925, in Alton, Illinois. After serving in the Pacific theatre as a Navy radioman during World War II, he attended Washington University in St. Louis, where he received bachelor's (1948), master's (1950), and doctoral (1952) degrees in chemistry. He spent six years (1952-1958) as Associate Professor of Chemistry at the University of Arkansas, where he established a widely recognized program in isotope geochemistry, before coming to the Carnegie Institution. During the 1968-69 academic year he was Visiting Scientist at the University of California, Berkeley. He is survived by his wife of 45 years, Martha and two sons, George and John. Donations to a memorial fund for Hoering will be accepted and should be made to the "Carnegie Institution of Washington, Geophysical Laboratory." Mention "For Thomas Hoering Fund" on the check and address it to the Director, Dr. Charles T. Prewitt, Geophysical Laboratory, 5251 Broad Branch Rd., N. W., Washington, D. C. 20015. (Robert Hazen, Geophysical Laboratory).

Cesare Emiliani, one of the seminal figures in isotope geochemistry and paleoclimatology, died from a sudden heart attack on July 20 in Palm Beach Gardens, Florida. He was closely associated with Roger Revelle and many others during the development of the JOIDES Deep-Sea Drilling Program, which grew out of his original LOCO (LONG COres) project that drilled the first long core (68 feet) into Pliocene sediments off Jamaica in 1963. He was an early member of the University of Chicago "Geochemistry Mafia" in Harold Urey's laboratory, where he took on himself the application of Urey's studies of Cretaceous paleotemperatures to the study of foraminifera in Pleistocene and Recent sediments. He arrived in Chicago in 1950, a classically trained micro-paleontologist (University of Bologna), and moved to the University of Miami seven years later bearing the full weight of Pleistocene paleoclimatology on his shoulders, having created a major revolution in the understanding of Late Cenozoic glacial cycles.

Among his many contributions to the use of oxygen isotopes in the fields of paleoecology and paleoclimatology, he made three major discoveries. First, he showed that the oxygen isotope cycles in long sediment cores corresponded to the carbonate extrema measured by G. Arrhenius, and proved that these cycles represented glacial and interglacial periods. This discovery was the death knell of the

then classical picture of four major glacial cycles during the Pleistocene epoch, and led ultimately to the knowledge that there have been some 36 glaciations during the last three million years of the Cenozoic era, extending far back before the Plio-Pleistocene boundary. Secondly, he demonstrated that these glaciation periodicities corresponded to the calculated temperature variations in the Milankovich cycle that had been deduced from the orbital and precessional effects of the earth. Thirdly, he showed that the temperature of the deep ocean had decreased monotonically from the Late Cretaceous to the present. The discovery of the many cycles of Plio-Pleistocene glaciation and their correlation with the Milankovich cycle revolutionized the understanding of Cenozoic climatic and glaciation cycles, and stands as one of the most remarkable examples of the overturning of geological concepts based on continental studies by new ideas developed from oceanographic research.

Cesare Emiliani was a true Renaissance scientist, at home in classical literature, fluent in many languages, and a dedicated opponent of dogma and mental rigidity wherever he found it. He received many honors during his career including, most recently, the Alexander Agassiz Medal of the National Academy of Sciences. In his later years he worked valiantly to introduce calendar reform to eliminate the BC-AD chronology hiatus caused by the lack of a Zero Year. That this was a non trivial pursuit is demonstrated by his final publication (*Nature* 375, 530, 1995) in which he showed that no less an authority than Pope John Paul II had himself erred in defining the second and third millennia in his Apostolic Letter proclaiming the Great Jubilee at the end of the second millennium. "Sic transit gloria mundi", as Cesare would say. (Harmon Craig, University of California at San Diego).

ORGANIC GEOCHEMISTRY DIVISION ANNOUNCEMENTS

Organic Geochemistry Division Awards: The following Organic Geochemistry Division Awards will be presented at the Geological Society of America meeting in New Orleans, November, 1995. This year's Treibs Medal is awarded to Dr. Keith Kvenvolden of the United States Geological Survey. Dr. Kvenvolden's past achievements in several research areas and his ongoing efforts in organic geochemistry are extensive. The OGD is proud to recognize his outstanding career as a geoscientist by the presentation of this year's Treibs Medal. The OGD is pleased to present the award for the Best Student Paper published in the field of Organic Geochemistry for 1994 to Dr. Isabelle Cozzarelli for the paper entitled, "The geochemical evolution of low-molecular-weight organic acids derived from the degradation of petroleum contaminants in groundwater", (*GCA* 58: 863-877). In part of this award, Dr. Cozzarelli will be presented with a one year membership in the Society with all rights and privileges. The OGD is pleased to present the award for the Best Paper in the field of Organic Geochemistry for 1994 to Dr. Jeffrey Seewald, for his paper entitled, "Evidence for metastable equilibrium between hydrocarbons under hydrothermal conditions", which appeared in *Nature* 370:285-287.

Sessions of Interest to OGD members.

The 30th International Geological Congress (IGC) will be held in Beijing, China, in August, 1996. Session 10-7 will focus on the Organic Geochemistry of Fossil Fuels. This session will encompass all aspects of the organic chemistry and geochemistry of fossil fuels, including oil, condensate, gas and coal. The organizers of this session (J. Connan, J. Curiale, Fu Jiamo) encourage contributions on the following subjects: Fossil fuel geochemistry/geology -- case studies, Determination of fossil fuel residues in the environment, Petroleum geochemistry, Petroleum exploration, including source rock geochemistry, Compositional analysis of petroleum as a predictor of source rock character, to solve reservoir development problems, and as a forensic tool, Petroleum geochemistry applications to art and archeology, Origin of natural gases, including non-hydrocarbons, in sedimentary basins, Changes in gas-oil compositions through primary and secondary migration. We invite potential contributors to submit abstracts directly to the Congress Office (Beijing) by the Abstract Deadline of November 1, 1995. For all information, including IGC-30 circulars and registrations forms, and to submit abstracts, contact: 30th IGC Secretariat Bureau, P.O. Box 823, Beijing 100037 CHINA Fax - +86-10-832-8928

6th GOLDSCHMIDT CONFERENCE, HEIDELBERG, MARCH 31-APRIL 4, 1996

The sixth V.M. Goldschmidt Conference will be held in Heidelberg, Germany, from Sunday 31st March to Thursday 4th April 1996. It is organised by the European Association of Geochemistry (EAG) in cooperation with the Geochemical Society. The two societies are planning to continue this cooperation by alternating the location of the conference annually between Europe and North America. The V.M. Goldschmidt Conference is scheduled to be located at the University campus, Im Neuenheimer Feld, with meeting rooms for about 1000 participants. Heidelberg has one of the most famous old universities in Germany with a great historical background. The town is situated in the beautiful surroundings of the Neckar valley directly below the famous Heidelberg castle. Several cultural and sightseeing events will be available to those needing a rest from the scientific sessions. Heidelberg can be reached by car using H A6 or by IC train the route -Frankfurt airport via Mainz or Mannheim is available several times a day. In addition there exists a busline to connect Frankfurt airport and Heidelberg directly every hour. For local transport between the main train station and the conference site several public tram and bus lines can be used.

Registration fees will be announced in the second brochure. Accommodations will be available at several hotels in downtown Heidelberg or at the youth hostel near the conference center at minimum costs for a limited number of participants. Hotel reservation and booking is organised by the local Tourist Information Center. For additional information please contact: Verkehrsverein Heidelberg "Conventions & Visitors Bureau", P.O. Box 105860, 69048 Heidelberg, fax (+49)-(0)6221-142222

Lecture and poster sessions will be grouped into Symposia and Open Sessions, each of which will be co-ordinated by symposium conveners. The Open Sessions will comprise all current fields of Geochemistry. Symposia topics and conveners follow: (1) *Cosmochemistry* (Elmar Jessberger, Michael E. Lipschutz), (2) *Distinguishing the plume from the non-plume in ocean island and continental basalts* (Steve Goldstein, David Hilton), (3) *Geochemistry of Re and Os* (Laurie Reisberg, Steve Shirey), (4) *Element partitioning in experimental and natural systems* (Stephen Foley, Erik Hauri); (5) *Trace elements in igneous petrogenesis* (Gerhard Worner, Marjorie Wilson); (6) *Geochemistry of mantle and crustal xenoliths* (Heinz-Günter Stosch, Roberta L. Rudnick); (7) *Chronometry of geological processes* (Klaus Mezger, Derek Vance); (8) *Coupled mass and heat transport* (Peter Möller, Ladislaus Rybach); (9) *Chemostratigraphy and events* (Jan Veizer, Stein B. Jacobsen); (10) *Proxies in paleoceanography and paleoclimatology* (Erwin Suess, Michael A. Arthur); (11) *Terrestrial aquatic systems* (Fritz H. Frimmel, Alexander I. B. Zehnder); (12) *Environmental geochemistry* (Ulrich Förstner, Willem Salomons); (13) *Organic geochemistry including molecular and isotopic signals in paleoenvironmental reconstruction* (Detlev Leythäuser, James R. Maxwell); (14) *Advances in analytical geochemistry* (Anton Eisenhauer, Laurent Turpin).

For more information contact: Goldschmidt Conference Secretary, Volker Brzezinski, Laboratorium für Geochronologie, Ruprecht-Karls-Universität Heidelberg, Im Neuenheimer Feld 234, 69120 Heidelberg (Germany) e-mail: goldconf@geobar.mpg.de fax: (+49)-(0)6131-371051

SHORT COURSES AND TOPICAL SESSIONS OF INTEREST TO GS MEMBERS

STRUCTURE, DYNAMICS, AND PROPERTIES OF SILICATE MELTS

Dates: December 9-10, 1995 (before Fall AGU)
Location: San Francisco Area, CA
Conveners: D.B. Dingwell (Bayerisches Geoinstitut)
P.F. McMillan (Arizona State Univ.)
J.F. Stebbins (Stanford University)

SHORT COURSE DESCRIPTION

Silicate melts are the essential phase of all magmatic processes. As such, melts play a key role in the chemical and physical differentiation of the Earth and terrestrial planets, as well as in more local phenomena of volcanism, plutonism, and heat and mass transfer in the crust and mantle. Equally important to this field has been the impetus provided by the use of silicate liquids and glasses in various industries. The past ten years have witnessed a tremendous growth of the literature on the structure, properties, and dynamics of silicate melts, stimulated by a number of breakthroughs in fundamental understanding. This short course will attempt to bring these new results and approaches to students and other

researchers in the earth and the materials sciences. Emphasis will be placed on new findings from high T studies of liquids, on the dynamical processes that distinguish liquids from glasses, and the links between thermodynamic and transport properties. For further information regarding the course please contact the business office of the Mineralogical Society of America: 1130 Seventeenth Street, NW, Suite 330, Washington DC 20036 Phone (202) 775-4344, or Fax (202) 775-0018

LIST OF TOPICS

1. X-RAY SCATTERING AND SPECTROSCOPIC STUDIES OF SILICATE MELTS - *G.E. Brown (Stanford University), G. Cala, F. Fargess (Universite de Paris VII)* 2. DIFFUSION IN SILICATE LIQUIDS - *S. Chakraborty (Universitat Koln)* 3. RHEOLOGY AND RELAXATION IN MELTS - *D.B. Dingwell (Bayerisches Geoinstitut)* 4. THERMODYNAMIC MIXING PROPERTIES AND STRUCTURE OF SILICATE MELTS - *P. Hess (Brown University)* 5. VIBRATIONAL STUDIES OF SILICATE LIQUIDS - *P.F. McMillan and G.H. Wolf (Arizona State University)* 6. STRUCTURAL, ELECTRICAL RELAXATION, AND THE GLASS TRANSITION - *C.T. Moynihan (Rennselaer Polytechnic Institute)* 7. ENERGETICS OF SILICATE MELTS - *A. Navrotsky (Princeton University)* 8. COMPUTER SIMULATIONS OF MELTS - *P.H. Poole (Dalhousie University), G.H. Wolf, and P.F. McMillan (Arizona State University)* 9. CONFIGURATIONAL ENTROPY AND VISCOSITY OF SILICATE MELTS - *P. Richet, Y. Bottinga (Institut de Physique du Globe de Paris)* 10. DYNAMICS AND STRUCTURE OF SILICATE MELTS: NUCLEAR MAGNETIC RESONANCE STUDIES - *J.F. Stebbins (Stanford University)* 11. ANELASTICITY OF SILICATE MELTS - *S. Webb and D.B. Dingwell (Bayerisches Geoinstitut)* 12. PRESSURE EFFECTS ON MELT STRUCTURE AND DYNAMICS - *G.H. Wolf and P.F. McMillan (Arizona State University)*

AQUEOUS CHEMISTRY AND GEO-CHEMISTRY OF OXIDES, OXYHYDROXIDES AND RELATED MATERIALS

Dates: April 8-12, 1996
Location: San Francisco, CA USA
Conveners: J. Voight, T. Wood
B. Bunker, L. Crossey
W. Casey

SESSION DESCRIPTION

This symposium (Symposium S) at the 1996 Spring Meeting of the Materials Research Society will provide a highly interdisciplinary forum for scientists and engineers to present recent work related to the synthesis, processing, and application of oxides and related materials in aqueous environments. The symposium will focus on solution chemistry, modeling, new and traditional characterization techniques, and applications where aqueous synthesis and processing routes provide a potential advantage over other methods and where the water/solid interface chemistry is exploited directly. The underlying science of these topics is generic to studies being carried out in a broad spectrum of disciplines including geochemistry, colloid chemistry, materials science, ceramic engineering, chemical engineering, and corrosion engineering. It is the intent of the symposium to emphasize the fundamental aspects of these topics through the different, and often complimentary, perspectives of the various disciplines.

Original papers are solicited in the following and related areas:

- Experimental and computer modeling aimed at providing detailed molecular models for reactions that occur at the water/solid interface
- Leaching, corrosion, and recrystallization mechanisms by which oxides, glasses, ceramics, and metals are altered or dissolved in aqueous media
- Metal ion hydrolysis and coordination chemistry including the properties and application of polynuclear metal cations
- Formation of powders and thin films under ambient and hydrothermal conditions including recrystallization kinetics and modeling nucleation and growth
- Phenomena related to colloidal processing including dispersion, flocculation, flotation, and consolidation including classical phenomena (electrostatic, steric, and electrosteric stabilization), as well as frontier areas such as short-range forces
- New applications of traditional characterization techniques, as well as newer techniques including atomic force microscopy and synchrotron radiation
- Material and chemical aspects of applications where aqueous synthesis and processing offer advantages over other routes (protective coatings, etc.) and where the aqueous/solid interface is exploited directly (sensors, etc.)
- Structural and thermodynamic aspects of oxides, oxyhydroxides, clays, and related materials that impact their response to aqueous environments such as pillaring and swelling of clays, growth in solution, etc.
- Acid-base and adsorption reactions at specific surface sites as probed by solution chemistry and surface science techniques - applications where materials design is desired to optimize adsorption (or desorption) or ion exchange.

Partial list of invited speakers: M. Anderson (University of Wisconsin); P. Brady (Sandia National Laboratories); G. Brown (Stanford University); M. Cima (MIT); E. J. Davis (University of Washington), V. Henrich (Yale University); J. Israelachvili (University of California, Santa Barbara); G. Macdonald (Pennsylvania State University); A. Navrotsky (Princeton University); G. Sposito (University of California, Berkeley)

Contact Bill Casey, Dept. of Land, Air and Water Resources, University of California, Davis, Davis, CA, ph: 916-752-3211, fax: 916-752-1552. Abstract deadline: November 1, 1995.

GEOLOGICAL SETTING OF NICKEL DEPOSITS

Dates: May 27-19, 1995 (at GAC-MAC)
Location: Winnipeg, Manitoba, Canada
Conveners: Jamie Robertson (Falconbridge Nickel)
Jorma Hannila (INCO Limited)
Wouter Bleeker (GSC)

SESSION DESCRIPTION

The Mineral Deposits Division (MDD) of the Geological Association of Canada (GAC) is sponsoring a Special Session at the Winnipeg '96 Joint Annual Meeting of the GAC/MAC: **Geological Settings of Nickel Deposits**. At this meeting we hope to bring together researchers and explorationists interested in the geology and genesis of nickel sulphide deposits. Although there will be a special focus on the Thompson Nickel Belt, the Circum-Superior Boundary, and the recent nickel discovery at Voisey Bay, we also encourage contributions on: the geology of nickel deposits worldwide, their tectonic settings, the flow versus sill debate, sulphide assimilation and its signatures, nickel metasomatism to form Ni-enriched sedimentary sulphides, geochemical fingerprinting of prospective ultramafic/mafic host rocks, Re/Os studies and other isotopic studies, and whatever else is hot in the nickel sulphide field.

The session will consist of both an oral and poster presentations. The deadline for abstracts is December 1 and coming up fast! If you need an ABSTRACT FORM, I suggest you contact the Department of Earth Sciences at the University of Manitoba (address below), or Wouter Bleeker.

If there is enough interest, we intend to bring out an "Extended Abstracts" volume on contributions to this meeting. To plan this volume and the work involved ahead of time, we have to get an idea of how many contributors there will be. The deadline for submission of "extended abstracts" to be included will probably be around the 1st of February, 1996. This will allow us to have it ready for distribution in Winnipeg. Therefore, if you plan on contributing, please let me know ahead of time.

I would also like to draw your attention to pre-meeting field trip A1, "*Evolution of the Thompson Nickel Belt, Manitoba: Setting of Ni-Cu deposits in the western part of the Circum-Superior Boundary Zone*" (3 days), in which we'll make a transect through the Thompson Nickel Belt and review the geology of its nickel sulphide deposits. Just to summarize, the following dates and information: Abstract deadline: December 1, 1995, Extended abstract submission: February 1, 1996, Field trip: #A1, Thompson Nickel Belt, 3 days, May 23-26, Meeting: May 27-29, 1996, Where: University of Manitoba, Winnipeg, MB, Canada. Session Organizers: Jamie Robertson, Falconbridge Limited, 21C Murray Park Road, Winnipeg, Manitoba, R3J 3S2, Canada, Tel: (204) 888-9860, Fax: (204) 885-4152; Jorma Hannila, INCO Limited, 60 Seal Road, Thompson, Manitoba, R8N 1S4, Canada, Tel: (204) 778-2114, Fax: (204) 778-2741, Wouter Bleeker, Geological Survey of Canada, Continental Geoscience Division, 5051st Street, Yellowknife, NT, X1A 1S5, Canada, Tel: (403) 920-8579, Fax: (403) 669-9700, Email: wbleeker@gsc.emr.ca. For ABSTRACT FORMS contact: Department of Geological Sciences, University of Manitoba, Winnipeg, Manitoba, R3T 2N2, Canada, Tel: (204) 474-7343, Fax: (204) 261-7581, Email: WPG_GACMAC@UMANITOBA.

APPLICATION OF MOLECULAR MARKERS IN ENVIRONMENTAL GEOCHEMISTRY

Dates: August 25-30, 1996
Location: Orlando, FL USA (212th ACS Meeting)
Convener: R.P. Eganhouse(USGS)

SESSION DESCRIPTION

This symposium, co-sponsored by Divisions of Environmental Chemistry and Geochemistry of the American Chemical Society, focuses on the 'molecular marker' concept as applied to environmental geochemistry. Because of their unique structures, markers are commonly used to identify biotic and abiotic source(s) of organic matter. At the same time, marker assemblages represent powerful molecular probes that can be used to elucidate processes affecting the transport and fate of contaminants. The symposium is intended to facilitate interaction among organic geochemists, environmental chemists and microbial ecologists who are actively engaged in environmental research which involves the use of molecular markers. We encourage contributions that include field, laboratory or modeling studies. However, topics for proposed papers should fall within the following general subject areas: -Markers of anthropogenic wastes: their use as process probes and tracers (e.g. linear alkylbenzenes, long-chain alkylamines, surfactants, fecal sterols, silicones, etc...); - Fossil biomarkers as applied to environmental contamination problems resulting from spills, leaks or waste disposal of fossil fuels (e.g. hydrocarbons, NSO compounds, porphyrins etc.); -Microbial markers used in reconstructing microbial community structure and as measures of microbial biomass and/or activity (e.g. fatty acids, lipopolysaccharides, muramic acid, phospholipids, etc...); -Contaminant assemblages that are useful as probes of biogeochemical processes (e.g. PCBs, PAHs, dioxins, furans, etc...). For further information contact: Dr. Robert P. Eganhouse (symposium, organizer), U.S. Geological Survey, 432 National Center, Reston, VA 22092, Phone: (703) 648-5879, FAX: (703) 648-5832, Email: eganhous@usgs.gov.

GEOCHEMICAL SOCIETY at the GSA ANNUAL MEETING, NEW ORLEANS, LA, NOV. 6-9 1995

The Fall meeting of the Geochemical Society will be held jointly with the Geological Society of America Annual Meeting in New Orleans, November 6 - 9, 1995. The program for the meeting was assembled from more than 200 contributed abstracts, which were reviewed by members of the Geochemical Society's program committee. Most of the contributed abstracts were accepted into either oral or poster sessions. The rejection rate was less than 4%. Some abstracts that indicated a preference for oral presentation were placed in poster sessions because of the need to schedule only five oral sessions within the strictures of the overall program. If authors prefer not to have their presentation switched from one type to another must remember to check the "Withdraw" box.

The society is sponsoring two symposia. The first is the Organic Geochemistry Division's symposium, "Variability of Isotope Compositions in Modern and Fossil Organic Matter," which will be held all day Sunday. The second is in honor of the society's 40th anniversary and is called "Frontiers in Geochemistry," which will be held Monday morning. A related symposium will be held on Sunday: Dynamics of Aqueous and Hydrocarbon Fluids in Sedimentary Basins. In addition, there are numerous theme sessions that have geochemical aspects to them. Two are Proterozoic Terranes of the Americas: Bridging the Gulf and Caribbean and Geochemistry, Hydrology, and Environmental Impacts of Brines and Saline Waters. There will also be five sessions of contributed geochemistry papers for oral presentation and one poster session.

The complete program is available at the GSA's web site at the URL

<http://www.aescon.com/geosociety/meetings/95/index.htm>

You can view the sessions by discipline or by day and view the lists of symposia and theme sessions. Check it out!

Proposals for symposia for next year's Fall meeting in Denver should be sent to Lukas Baumgartner (lukas@ice.geology.wisc.edu). The deadline for submitting proposals for symposia and theme sessions to GSA is January 1. (Ted Labotka, outgoing GS Program Chair)

Calendar of Geochemical Society Events, 1995 Fall GSA Meeting

Sunday, Nov 5 (AM)

Symposium (S18): Variability of Isotope Compositions in Modern and Fossil Organic Matter-I

Sunday, Nov 5 (PM)

Symposium (S18): Variability of Isotope Compositions in Modern and Fossil Organic Matter II

Symposium (S27): Dynamics of Aqueous and Hydrocarbon Fluids in Sedimentary Basins

Geochemical Society Board Meeting (6-10 pm)

Monday, Nov 6 (AM)

GS--Geochemistry I: Isotope Geochemistry

Tuesday, Nov 7 (PM)

GS Symposium (S14): Frontiers in Geochemistry

GS--Geochemistry III: Geochemistry of Surfaces and Interfaces

Party to celebrate the 40th Anniversary of the Geochemical Society

Wednesday, Nov 8 (AM)

GS--Geochemistry (Posters)

Theme Session (T23) Geochemistry, Hydrology, and Environmental Impacts of Brines and Saline Waters

Wednesday, Nov 8 (PM)

GS--Geochemistry IV: Aqueous and Biogeochemistry

Thursday, Nov 9 (AM)

Theme Session (T4): Proterozoic Terranes of the Americas: Bridging the Gulf and Caribbean

Thursday, Nov 9 (PM)

GS--Geochemistry V: Analytical and Sedimentary Geochemistry

GS SPONSORED SESSIONS AND OTHERS OF GS INTEREST AT GSA

(Extracted from the WEB address: <http://www.aescon.com/geosociety/meetings/95/index.htm>)

Sunday, Nov 05, Organic Geochemistry Division of the GS Symposium (S18):

Variability of Isotope Compositions in Modern and Fossil Organic Matter--Part I

Ernest N. Morial Convention Center, 42, 8:00 AM ---- Stephen A. Macko, Michael H. Engel, and Kate Freeman,
8:00 AM INTRODUCTION

8:10 AM Moran, J. E.*, Schink, D. R., Santschi, P. H., Fehn, U., Teng, R. T. D.: 129IODINE AS AN INDICATOR OF CONTEMPORARY TERRESTRIAL AND FOSSIL ORGANIC CARBON IN RECENT MARINE SEDIMENTS

8:30 AM Chanton, J. P.*, Lewis, Graham, Coffin, Richard, Hoch, Matthew, Kelley, Cheryl, Dillon, Kevin: MULTIPLE STABLE ISOTOPE TRACING OF THE FOOD WEB IN A RIVER-DOMINATED ESTUARY, APALACHICOLA BAY, FLORIDA

8:50 AM Fry, Brian*, Hopkinson, Chuck, Altabet, Mark, Eglinton, Tim: CARBON-13 VARIATION IN DISSOLVED ORGANIC CARBON FROM THE WORLD OCEANS

9:10 AM Farrell, John W.*, Pedersen, T. F., Calvert, S. E., Nielsen, B.: NUTRIENT UTILIZATION HISTORY OF THE EQUATORIAL PACIFIC REVEALED BY SEDIMENTARY NITROGEN ISOTOPE RATIOS

9:30 AM Pancost, Richard D.*, Freeman, Katherine H., Wakeham, Stuart G.: TAXONOMIC CONTROLS ON CARBON ISOTOPE FRACTIONATION IN THE PERU UPWELLING ZONE

9:50 AM Ostrom, Nathaniel E.*, Bell, Emily M., Long, David T., Macko, Stephen A.: CARBON AND NITROGEN ISOTOPIC COMPARISONS BETWEEN LAKE SUPERIOR, LAKE MICHIGAN AND CONCEPTION BAY, NEWFOUNDLAND

10:10 AM Kvenvolden, Keith A.*, Carlson, Paul R., Hostettler, Frances D., Threlkeld, Charles N., Warden, Augusta: GEOCHEMICAL IDENTIFICATION OF OIL PRODUCTS USED IN THE HISTORICAL DEVELOPMENT OF ALASKA

10:30 AM Andrusevich, V. E.*, Engel, M. H., Zumberge, J. E.: EPISODIC CHANGES IN THE STABLE CARBON ISOTOPE COMPOSITION OF CRUDE OILS OVER GEOLOGIC TIME

10:45 AM Turekian, Vaughan C.*, Macko, Stephen A., Ballentine, Donna C., Gilhooly, William P., Swap, Robert J., Garstang, Michael: THE EFFECT OF PYROLYSIS ON THE BULK CARBON AND NITROGEN ISOTOPIC SIGNATURE OF THE PRODUCTS OF CONTROLLED LABORATORY BURNS OF C3 AND C4 VEGETATION

11:00 AM Ballentine, Donna C.*, Macko, Stephen A., Turekian, Vaughan C., Gilhooly, William P.: VARIABILITY OF STABLE CARBON ISOTOPIC COMPOSITIONS IN INDIVIDUAL FATTY ACIDS FROM COMBUSTION OF C3 AND C4 PLANTS: IMPLICATIONS FOR BIOMASS BURNING

11:15 AM Hobbie, Erik A.*, Shugart, Herman H., Macko, Stephen A.: INVESTIGATING NITROGEN DYNAMICS DURING FOREST SUCCESSION THROUGH STABLE ISOTOPES

11:30 AM ORGANIC GEOCHEMISTRY BUSINESS MEETING AND TREIBS MEDAL PRESENTATION

Sunday, Nov 05, Organic Geochemistry Division of the GS Symposium (S18):

Variability of Isotope Compositions in Modern and Fossil Organic Matter--Part II

Ernest N. Morial Convention Center, 42, 1:30 PM ----- Stephen A. Macko, Michael H. Engel, and Kate Freeman,
1:30 PM Epstein, Samuel*: THE ISOTOPIC COMPOSITION OF HYDROGEN IN LIVING AND FOSSIL WOOD

1:50 PM Krishnamurthy, R. V.*, Machavram, M.: IMPLICATIONS OF IRREVERSIBLE DEUTERIUM LOSS IN THERMALLY STRESSED CELLULOSE

2:10 PM Steer, James, Muehlenbachs, Karlis*: CLIMATIC IMPLICATION OF THE VARIATION IN HYDROGEN ISOTOPIC COMPOSITION OF COAL AND CLAY ACROSS THE K/T BOUNDARY

2:30 PM Connin, Sean L.*, Virginia, Ross A., Chamberlain, C. Page: ISOTOPIC VARIABILITY OF ORGANIC CARBON FRACTIONS AND THEIR RELATIONSHIP TO PLANT COMMUNITY DYNAMICS IN AN ARID-LAND ENVIRONMENT

2:50 PM Scalan, Richard S.*, Parker, Patrick L., Winters, J. Kenneth, Anderson, Richard K.: THE FLORAL END-MEMBER - HOW SWEET IT IS

3:10 PM Koch, Paul L.*, Hoppe, Kathryn A.: THE DIET OF LATE PLEISTOCENE MASTODONS AND MAMMOTHS IN FLORIDA AND ITS ROLE IN THEIR EXTINCTION

3:30 PM Johnson, Beverly J.*, Fogel, Marilyn F., Miller, Gifford H.: STABLE ISOTOPES IN AUSTRALIAN RATTITE EGGSHELL FOR PALEOENVIRONMENTAL RECONSTRUCTIONS

3:50 PM Kohn, Matthew J.*, Valley, John W., Schoeninger, Margaret J.: LASER PROBE ANALYSES OF TEETH: A NEW APPROACH REVEALS OXYGEN ISOTOPE HETEROGENEITY

- 4:10 PM Ostrom, Peggy H.*, Ostrom, N. E., Eadie, B. J., Meyers, P. A.: INTERPRETATIONS OF HISTORICAL VARIATION IN THE TROPHIC STATE OF LAKE ERIE BASED ON MOLECULAR ISOTOPIC AND ORGANIC GEOCHEMICAL
- 4:30 PM Blair, Neal E.*: THE ^{13}C OF BIOGENIC METHANE IN MARINE SEDIMENTS: THE INFLUENCE OF C ORG DEPOSITION RATE
- 4:50 PM Dias, Robert F.*, Cooper, Frances G., Filley, Timothy R., Pancost, Richard D., Suits, Neil S., Wilkin, Richard T., Freeman, Katherine H.: CYCLING OF CARBON AND SULFUR COMPOUNDS IN THE
- 5:10 PM Trust, Beth A.*, Kelley, Cheryl A., Coffin, Richard B., Cifuentes, Luis A., Mueller, James G.: DELTA- ^{13}C VALUES OF POLYCYCLIC AROMATIC HYDROCARBONS (PAHS) COLLECTED FROM TWO
- 5:30 PM ORGANIC GEOCHEMISTRY SPEAKER RECEPTION

Sunday, Nov 05, Dynamics of Aqueous and Hydrocarbon Fluids in Sedimentary Basins (S27)

Ernest N. Morial Convention Center, 41, 1:00 PM -----Janet Pitman and Michael Lewan, Presiding

- 1:00 PM INTRODUCTION
- 1:05 PM Bethke, Craig M.*: FLUID MIGRATION IN SEDIMENTARY BASINS--A MODELING PERSPECTIVE
- 1:35 PM Land, Lynton S.*: BURIAL DIAGENESIS: OPEN-SYSTEM REACTIONS IN MUDROCKS RULE!
- 2:05 PM Goldhaber, Martin B.*, Rowan, Elizabeth L., Hatch, Joseph R.: LATE PALEOZOIC ILLINOIS BASIN BRINE MIGRATION: CONFIRMATION FROM PALEOTRACER STUDIES AND CONSEQUENCES FOR COAL QUALITY
- 2:50 PM Person, Mark*, Morin, Paul, Toupin, Denah, Eadington, Peter, Warner, David: FINITE ELEMENT ANALYSIS AND SCIENTIFIC VISUALIZATION OF THE PETROLEUM HYDROGEOLOGY OF THE GREAT ARTESIAN BASIN
- 3:20 PM Hinch, Henry H.*: SECONDARY OIL MIGRATION AND ENTRAPMENT WITHIN THE BAKKEN-MADISON PETROLEUM SYSTEM IN THE WILLISTON BASIN
- 3:50 PM McPherson, B. J., Bredehoeft, J. D.*: BASIN EVOLUTION, FLUID PRESSURES, OIL MIGRATION--UINTA BASIN, UTAH
- 4:20 PM Ortoleva, Peter J.*: EVOLUTION OF BASIN FLUIDS: THREE DIMENSIONAL, REACTION-TRANSPORT-MECHANICAL SIMULATION STUDIES

Monday, Nov 06, GS--Isotope Geochemistry I

Ernest N. Morial Convention Center, 26, 8:00 AM -----John Eiler and Steve Getty, Presiding

- 8:00 AM Sherwood Lollar, B.*, Ballentine, C., O'Nions, R. K.: MANTLE-DERIVED VOLATILES IN THE CONTINENTAL CRUST - EVIDENCE FOR MANTLE-DERIVED CARBON BASED ON THE C/HE RELATIONSHIPS AND STABLE ISOTOPE SIGNATURES
- 8:15 AM Smith, Harold A.*, Giletti, Bruno J.: PB LOSS IN MONAZITE VIA DIFFUSION AND OTHER TRANSPORT PROCESSES
- 8:30 AM Valley, J. W.*, Graham, C. M.: PROCESSES OF HYDROTHERMAL WATER/ROCK EXCHANGE: ION MICROPROBE AND LASER ANALYSIS OF D ^{18}O IN QUARTZ FROM SKYE
- 8:45 AM Eiler, John M.*, Farley, Kenneth, Stolper, Edward M., Valley, John W., Craig, Harmon: OXYGEN ISOTOPE RATIOS IN PHENOCRYSTS FROM PITCAIRN ISLAND: CONSTRAINTS ON RECYCLED SEDIMENT IN THE "EMI" ENRICHED MANTLE
- 9:00 AM Getty, Stephen R.*, DePaolo, Donald J.: QUATERNARY GEOCHRONOLOGY USING THE U-TH-PB METHOD
- 9:15 AM Asmerom, Yemane*, Edwards, Lawrence: THE STRUCTURE OF THE MANTLE AND THE CAUSE OF RIFT MAGMATISM: INSIGHTS FROM NEW U-SERIES ISOTOPIC DATA
- 9:30 AM Wolf, R. A.*, Farley, K. A., Silver, L. T.: (U-TH)/HE DATING: DIFFUSION STUDIES AND APPLICATION TO AN UPLIFTED MOUNTAIN BLOCK IN THE PENINSULAR RANGES BATHOLITH, CALIFORNIA
- 9:45 AM Farley, K. A.*, Wolf, R. A., Silver, L. T.: (U-TH)/HE DATING: OVERVIEW OF THE SYSTEM AND ANALYTICAL TECHNIQUES
- 10:00 AM Foland, K. A.*, Wen, Dong, Linder, J. S.: PB ISOTOPE GEOCHEMISTRY OF MOUNT BROME COMPLEX, SOUTHERN QUEBEC, CANADA
- 10:15 AM Gilliam, Carrie E.*, Valley, John W.: LOW ^{18}O MAGMA, CUILLIN INTRUSIVE CENTER, ISLE OF SKYE, SCOTLAND
- 10:30 AM Peck, William H.*, Valley, John W., Dymek, Robert F.: STABLE ISOTOPE GEOCHEMISTRY OF THE FISKENAESSET ANORTHOSITE COMPLEX: EVIDENCE FOR SHALLOW SEAFLOOR EMPLACEMENT
- 10:45 AM Chan, Lui-Heung*, You, Chen-Feng, Leeman, William P.: LITHIUM ISOTOPE COMPOSITION OF CENTRAL AMERICAN VOLCANIC ARC LAVAS: EVIDENCE OF SLAB-DERIVED FLUIDS IN MAGMA GENESIS
- 11:00 AM Brand, Cortney C.*, Knauth, L. P.: STABLE ISOTOPIC EVOLUTION OF WATERSHEDS WITH IMPLICATIONS FOR THE ORIGIN OF "LOCAL METEORIC WATER LINES"

- 11:15 AM Ekart, Douglas D.*, Cerling, Thure E.: STABLE ISOTOPIC ANALYSES OF MATERIALS FROM THE TWO MEDICINE FORMATION, MONTANA
- 11:30 AM Hu, Feng Sheng*, Ito, Emi: STABLE-ISOTOPE AND TRACE-ELEMENT EVIDENCE OF CLIMATIC CHANGE IN THE NORTHWESTERN ALASKA RANGE SINCE 11,000 BP
- 11:45 AM DePaolo, Donald J.*, Skulan, Joseph L., Owens, Thomas L.: CALCIUM ISOTOPIC FRACTIONATION IN TERRESTRIAL MATERIALS

Monday, Nov 06, GS--Geochemistry II: Hydrogeochemistry

Ernest N. Morial Convention Center, 26, 1:00 PM -----Tom Brikowski and Alan Shiller, Presiding

- 1:00 PM Carpenter, D. Thomas*, Hajash, Andrew: DEFORMATION IN REACTIVE PORE FLUIDS: EXPERIMENTAL COMPACTION OF ALBITE SAND IN ORGANIC ACIDS AT 100 DEGREES AND 160 DEGREES C
- 1:15 PM Lee, Ming-Kuo*, Bethke, Craig M.: NUMERICAL SIMULATIONS OF STABLE ISOTOPIC FRACTIONATION IN REACTING GEOCHEMICAL SYSTEMS
- 1:30 PM Brikowski, Tom H.*: A NEW CALIBRATION APPROACH FOR HYDROTHERMAL MODELS: ANALYSIS IN ISOTOPIC DELTA-SPACE
- 1:45 PM Groffman, Armand R.*, Crossey, Laura J., Campana, Michael E., Sterling, Joseph, Valett, H. Maurice: BIOGEOCHEMISTRY OF A FIRST-ORDER MONTANE STREAM/ALLUVIAL AQUIFER SYSTEM: RIO
- 2:00 PM Turin, H. J.*, Plummer, M. A.: GEOCHEMISTRY OF LECHUGUILLA CAVE POOL WATER
- 2:15 PM Turin, H. J., Plummer, M. A.*: TRITIUM IN LECHUGUILLA CAVE POOL WATER: IMPLICATIONS FOR RECHARGE PROCESSES
- 2:30 PM Macpherson, G. L.*: MINOR HALOGENS IN EOCENE WILCOX GROUP FORMATION WATERS, TEXAS GULF COAST SEDIMENTARY BASIN
- 2:45 PM Johannesson, Kevin H.*, Zhou, Xiaoping, Stetzenbach, Klaus J.: RARE EARTH ELEMENT DISTRIBUTIONS IN GROUNDWATERS AND EVIDENCE OF INTERBASIN FLOW IN THE DESERT SOUTHWEST
- 3:00 PM Shiller, Alan M.*: DISSOLVED VANADIUM IN RIVERS
- 3:15 PM Barry, Thomas H., VI*, Bove, Dana J., Plumlee, Geoff S., Saunders, James A.: GEOCHEMISTRY OF NATURAL WATERS DRAINING HYDROTHERMALLY ALTERED AND MINERALIZED TERRAINS IN THE UPPER ALAMOSA
- 3:30 PM Donahoe, Rona J.*, Liu, Chongxuan, Dobson, Keith, Graham, Elizabeth: CYCLING OF TRACE METALS IN A FRESH-WATER RIPARIAN WETLAND
- 3:45 PM Mastrine, J. A.*, Bonzongo, J. C., Lechler, P. J., Lyons, W. B.: THE CONCENTRATION OF MERCURY IN AN ALABAMA FLUVIAL SYSTEM WITH FORMER PLACER GOLD WORKINGS
- 4:00 PM Fu, Baoshun*, Aharon, Paul: OXYGEN AND SULFUR ISOTOPES AND ELEMENTAL CHEMISTRY OF BARITE DEPOSITS ASSOCIATED WITH HYDROCARBON SEEPS IN THE DEEP GULF OF MEXICO
- 4:15 PM Kronfeld, J.*, Minster, Tsebi, Ilani, Shimon, Ne'eman, Ehud: OIL SHALES, BRINES, AND RADIUM ANOMALIES (ISRAEL)
- 4:30 PM MacGowan, D. B.*: THE ROLE OF WATER AS AN OXIDANT DURING LABORATORY MATURATION OF COAL: IMPLICATIONS FOR CLASTIC DIAGENESIS
- 4:45 PM Wunsch, David R.*: HYDROCHEMICAL FACIES MODEL FOR DISSECTED, COAL-BEARING STRATA IN THE APPALACHIAN COAL FIELD

Tuesday, Nov 07, GS Symposium (S14): Frontiers in Geochemistry

Ernest N. Morial Convention Center, 6, 1:00 PM ----- Tony Lasaga, Presiding

- 1:00 PM Palmer, Donald A.*, Benezeth, Pascale, Wesolowski, David J.: A NEW EXPERIMENTAL APPROACH TO SOLUBILITY MEASUREMENTS EQUILIBRIA AND KINETICS: BOEHMITE SOLUBILITY AS A TEST CASE
- 1:30 PM Brown, G. E., Jr.*, Bargar, J. R., Cheah, S-F., Foster, A. L., Parks, G. A., Peterson, M. L., Towle, S. N., O'Day, P. A., Tokunaga, T. K.: MOLECULAR-LEVEL MODELS OF HEAVY METAL SORPTION IN SYNTHETIC AND NATURAL SYSTEMS FROM IN-SITU SPECTROSCOPIC STUDIES
- 2:00 PM Berner, Robert A.*: THE GEOCHEMICAL CARBON CYCLE AND EARTH SYSTEM SCIENCE
- 2:30 PM Halliday, Alex N.*, Lee, Der-Chuen, Christensen, John N., Yi, Wen, Rehkemper, Mark, Ballentine, Chris J., Hall, Chris M.: FROM IN SITU ISOTOPIC ANALYSIS TO THE ORIGIN OF THE SOLAR SYSTEM: THE POWER OF MC-ICPMS
- 3:30 PM McSween, Harry Y., Jr.*: STARDUST, MELTED ASTEROIDS, AND MARTIAN WATER: GEOCHEMISTRY AT THE HIGH FRONTIER
- 4:00 PM Ague, Jay J.*: NEW PERSPECTIVES ON REGIONAL METAMORPHISM
- 4:30 PM Hemley, Russell J.*: CHEMISTRY OF THE DEEP MANTLE AND CORE

Tuesday, Nov 07, GS--Geochemistry III: Geochemistry of Surfaces and Interfaces

Ernest N. Morial Convention Center, 13, 1:30 PM ---- Mike Machesky and Carl Moses, Presiding

- 1:30 PM Bertetti, F. Paul*, Pabalan, Roberto T., Turner, David R., Almendarez, Michael G.: EXPERIMENTAL STUDIES OF NEPTUNYL SORPTION ON QUARTZ, CLINOPTILOLITE AND MONTMORILLONITE
- 1:45 PM O'Day, Peggy*, Carroll, Susan, Waychunas, Glenn: BONDING AND COORDINATION OF TRACE METALS IN ACID-MINE SEDIMENTS USING SYNCHROTRON X-RAY ABSORPTION SPECTROSCOPY
- 2:00 PM Reeder, Richard J.*: INTERACTION OF CO, CD, ZN, AND BA WITH CALCITE SURFACES DURING LAYER GROWTH
- 2:15 PM Papenguth, Hans W.*, Brady, Patrick V.: METAL SORPTION ON DOLOMITE SURFACES [15239]
- 2:30 PM Brady, Patrick V.*, Krumhansl, James L., Papenguth, Hans W.: SURFACE COMPLEXATION CLUES TO DOLOMITE GROWTH
- 2:45 PM Teng, Hui*, Dove, Patricia M.: MODIFYING EFFECTS OF AMINO ACIDS ON CALCITE DISSOLUTION AND CRYSTALLIZATION: IN SITU INVESTIGATION BY ATOMIC FORCE MICROSCOPY
- 3:00 PM Balsley, Steven D.*, Brady, Patrick V., Anderson, Howard L., Jr., Krumhansl, James L.: IODIDE RETENTION BY METAL SULFIDE SURFACES
- 3:15 PM Machesky, Michael L.*, Wesolowski, David J., Palmer, Donald A.: THE SURFACE CHARGE PROPERTIES OF A MODEL OXIDE (RUTILE) IN SODIUM CHLORIDE SOLUTIONS FROM 25 TO 250 C.
- 3:30 PM Ward, David B.*, Brady, Patrick V.: INTERFACIAL EQUILIBRIA BETWEEN ORGANIC ACIDS AND MULTI-OXIDE SILICATES
- 3:45 PM Zdansky, Erik O. F., Moses, Carl O.*, Ilton, Eugene S.: ALTERATION OF LEAD SULPHIDE SURFACES BY REACTION WITH O₂, H₂O, AND CO₂
- 4:00 PM Ilton, Eugene S.*, Veblen, David R.: SOME CONTROLS ON THE RATE OF COUPLED SORPTION-REDUCTION OF HEXAVALENT CHROMIUM BY BIOTITE IN AQUEOUS SOLUTIONS
- 4:15 PM Kim, Christopher S., Yates, Douglas M.*, Heaney, Peter J.: EFFECT OF LARGE ORGANIC ION INTERCALATES ON THE ADSORPTION OF BENZENE IN A NA-LAYERED SILICATE
- 4:30 PM Jurinski, Joseph B.*, Rimstidt, J. Donald: DISSOLUTION OF TALC IN SIMULATED PHYSIOLOGICAL SOLUTIONS
- 4:45 PM Nordstrom, D. Kirk*, Carlson-Foszcz, Victoria, Oreskes, Naomi: RARE EARTH ELEMENT (REE) FRACTIONATION DURING ACIDIC WEATHERING OF SAN JUAN TUFF, COLORADO
- 5:00 PM Xu, Huifang*, Buseck, Peter R.: EFFECTS OF SURFACE PROPERTIES ON THE STRUCTURAL STATE OF AUTHIGENIC K-FELDSPARS IN AQUEOUS SOLUTIONS
- 5:15 PM Lebeuf, Michel, Kramer, James R.*: KINETICS OF TRACE METAL INTERACTIONS WITH SUSPENDED SEDIMENTS

Wednesday, Nov 08, GS--Geochemistry (Posters)

Ernest N. Morial Convention Center, Hall A, 8:00 AM ---- Authors will be present from 9:00 to 11:00 AM

- 9 Joyce, Jennifer A.*, Jewell, Paul W.: PHYSICAL AND CHEMICAL CONTROLS ON METHANE FLUX FROM TWO TROPICAL RESERVOIRS
- 10 Glover, William C.*, Means, Jay C.: SPECIATION OF DISSOLVED SELENIUM IN THE MISSISSIPPI RIVER
- 11 Zhang, C.*, Pfiffner, S. M., Palumbo, A. V., Phelps, T. J.: MICROBIAL AND CHEMICAL HETEROGENEITY IN SUBSURFACE SEDIMENTS AT A COASTAL PLAIN SITE
- 12 Dobson, Robert W.*, Herman, Janet S., Mills, Aaron L., Hornberger, George M.: SULFATE ADSORPTION IN A SHALLOW, SANDY AQUIFER
- 13 Perry, Eugene C.*, Velazquez-Oliman, Guadalupe: SOLUTION EROSION OF ESTERO CELESTUN & BOCAS DE DZILAM, YUCATAN, MEXICO
- 14 Liu, J.*, Hay, R. L., Shelton, K. L., Deino, A., Kyser, T. K.: HOT, SALINE FLUIDS ARE RESPONSIBLE FOR K-METASOMATISM IN THE UPPERMOST PRECAMBRIAN ROCKS OF WEST-CENTRAL WISCONSIN
- 15 Gomez, Paloma, Turrero, Marja Jesús*, Gimeno, Marja José, Peña, Javier, Gordienko, Felix: HYDROGEOCHEMISTRY AND WATER-ROCK INTERACTION OF THE LOW PERMEABLE, URANIUM-RICH GRANITIC PLUTON OF EL BERROCAL, SPAIN
- 16 Yang, Bencai*, Hajash, Andrew: ALBITE DISSOLUTION IN ACETIC, OXALIC, AND CITRIC ACIDS: EFFECTS OF SPECIATION AND REACTION HISTORY
- 17 Bouker, P. A.*, Goddard, E. A., Goggin, K. E., Hall, A. S., McLain, A. A., Orsega, M. C., Rafter, M. A., Railsback, L. B., Feeney, T. P.: A SURVEY OF THE MAJOR ELEMENT GEOCHEMISTRY OF GEORGIA GROUNDWATER
- 18 Doctor, D. H.*, Berndt, M. E., Seyfried, W. E., Jr.: AN EVALUATION OF NEAR-EQUILIBRIUM CALCITE KINETICS AT 100 DEGREES C USING AN ISOTOPIC DOPING TECHNIQUE
- 19 Hu, Shumin*, Zhang, Ronghua: DYNAMIC STUDY USING FT-IR AND UV SPECTRA AND XPS TO MINERAL/LIQUID INTERFACE
- 20 Blake, R. E.*, Walter, Lynn M.: A COMPARISON OF QUARTZ AND FELDSPAR DISSOLUTION IN THE PRESENCE OF ORGANIC ACIDS AND NaCl (0-2M) AT PH 6 AND 70-80 DEGREES C: NEW INSIGHTS FOR SILICICLASTIC DIAGENESIS

- 21 Knauss, Kevin G.*, Alai, Maureen, Mew, Daniel A., Copenhaver, Sally A., Aines, Roger D.: TCE: THERMODYNAMIC MEASUREMENTS AND DESTRUCTION VIA HYDROUS PYROLYSIS/OXIDATION
- 22 Floesser, Jochen A.*, Wolf, Lorraine W., Saunders, James A.: APPLICATION OF GIS TECHNIQUES TO EVALUATING GROUND WATER GEOCHEMISTRY OF COASTAL PLAIN AQUIFERS IN ALABAMA

Wednesday, Nov 08, (T23) Geochemistry, Hydrology, and Environmental Impacts of Brines and Saline Waters

Ernest N. Morial Convention Center, 44, 8:00 AM ----- G. F. Huff and J. S. Hanor, Presiding

8:00 AM Hanor, Jeffrey S.*: CONTROLS ON THE SOLUBILITY OF LEAD AND ZINC IN BASINAL BRINES

8:15 AM Criss, R. E.*, Davisson, M. L.: NEW EXPLANATION OF NA-CA-CL RELATIONS IN BASINAL FLUIDS

8:30 AM Jones, Blair F.*, Anderholm, Scott K.: GEOCHEMICAL EVALUATION OF BRINE COMPOSITIONS FROM THE SALADO FORMATION AND UNDERLYING STRATA, SE NEW MEXICO

8:45 AM Stueber, A. M.*, Saller, A. H., Ishida, H.: ORIGIN, MIGRATION, AND MIXING OF BRINES IN THE PERMIAN BASIN: GEOCHEMICAL EVIDENCE FROM THE EASTERN CENTRAL BASIN PLATFORM, TEXAS

9:00 AM Ku, T. C. W.*, Budai, J. M., Stearns, C., Martini, A. M., Walter, L. M.: GEOCHEMICAL ANATOMY OF A GLACIALLY-INFLUENCED BIOGENIC GAS RESERVOIR, ANTRIM SHALE, MICHIGAN BASIN: PART

9:15 AM Martini, A. M.*, Walter, L. M., Budai, J. M., Ku, T. C. W.: GEOCHEMICAL ANATOMY OF A GLACIALLY-INFLUENCED BIOGENIC GAS RESERVOIR, ANTRIM SHALE, MICHIGAN BASIN: PART II.

9:30 AM Sarkar, Alok*, Nunn, Jeffrey A., Hanor, Jeffrey S.: DISSOLUTION AT THE EDGES OF ADJACENT SALT SHEETS: A MECHANISM FOR UPWELLING OF DEEP SEDIMENTARY FLUIDS

9:45 AM Smith, Jennifer S.*, Kyle, J. Richard: ORIGIN OF CALCITE- AND PYRITE-CEMENTED CARIZO SANDSTONE ON THE FLANKS OF THE BUTLER SALT DOME, EAST TEXAS BASIN: PETROGRAPHIC AND ISOTOPIC EVIDENCE FOR

10:00 AM Melchiorre, Erik B.*, Criss, Robert E., Davisson, M. Lee: ISOTOPIC IDENTIFICATION AND SEISMIC IMPLICATIONS OF EXPELLED FORMATION FLUIDS, MOUNT DIABLO REGION, CALIFORNIA

10:15 AM Dutton, Alan R.*, Mace, Robert E., Jones, Ian C.: DISPLACEMENT OF MODIFIED-CONNATE SEAWATER FROM FRACTURED CRETACEOUS CHALK IN NORTH-CENTRAL TEXAS

10:30 AM Huff, G. F.*, Hanor, J. S.: SOURCES OF BRINE SALINITY IN THE MIDDLE HYDROLOGIC UNIT OF THE WILCOX GROUP (MIDDLE WILCOX AQUIFER) OF EASTERN-CENTRAL LOUISIANA

10:45 AM Kolak, Jonathan J.*, Long, David T., Larson, Grahame J., Sibley, Duncan F., Matty, Jane M.: INTERACTIONS AMONG FORMATION BRINE, NEAR-SURFACE GROUNDWATER, AND LARGE LAKES: A PRELIMINARY

11:00 AM Saunders, James A.*, Swann, Charles T.: EVIDENCE FOR BRINE-SOURCED IONS IN GROUNDWATER FROM THE PALEOZOIC AQUIFER, NORTHEAST MISSISSIPPI

11:15 AM Poole, V. L.*, Leap, D. I.: DEVELOPMENT OF A PREDICTIVE MODEL FOR TDS CONCENTRATIONS OF SALINE WATERS IN PENNSYLVANIAN-AGE SANDSTONES

11:30 AM Kharaka, Yousif K.*, Thordsen, James J., Ambats, Gil: WATER-QUALITY IMPACTS OF PETROLEUM EXPLORATION AND PRODUCTION

11:45 AM Frappe, Shaun K.*, Cloutier, Vincent, Husain, Muin M., Drimmie, Robert, Cherry, John A., Weaver, Tamie R.: REGIONAL HYDROGEOCHEMICAL TRENDS FOR CHLORINE 37/35 IN THE GROUNDWATERS OF

Wednesday, Nov 08, GS--Geochemistry IV: Aqueous and Biogeochemistry

Ernest N. Morial Convention Center, 40, 1:30 PM --- Richard M. Kettler and Dave Wesolowski, Presiding

1:30 PM Wood, Scott A.*, Wesolowski, David J., Palmer, Donald A.: THE POTENTIOMETRIC DETERMINATION OF STABILITY CONSTANTS OF ND ACETATE COMPLEXES FROM 25 DEGREES TO 250 DEGREES C

1:45 PM Gammons, Chris H.*, Williams-Jones, Anthony E., Wood, Scott A.: STABILITY OF ND-CHLORIDE COMPLEXES AT ELEVATED TEMPERATURE

2:00 PM Huston, Ted J.*, Walter, Lynn M.: KINETICS OF QUARTZ PRECIPITATION AT 180 DEGREES C: EFFECTS OF NA CL AND DEGREE OF QUARTZ SUPERSATURATION

2:15 PM Joyce, David B.*, Simonson, J. Michael, Palmer, Donald A.: VAPOR LIQUID PARTITIONING OF AQUEOUS SODIUM CHLORIDE TO 350 DEGREES C

2:30 PM Ridley, Moira K., Kettler, Richard M.*, Palmer, Donald A., Wesolowski, David J.: ASSOCIATION QUOTIENTS OF CADMIUM MALONATE COMPLEXES IN AQUEOUS SODIUM TRIFLUOROMETHANESULFONATE MEDIA

2:45 PM Wesolowski, D. J.*, Palmer, D. A., Benzeth, P., Ridley, M. K., Kettler, R. M.: GIBBSITE SOLUBILITY AT 50 DEGREES C AND 0.1 TO 1.0 MOLAL IONIC STRENGTH: THE EFFECTS OF CHLORIDE (VS.

3:00 PM Benzeth, Pascale*, Palmer, Donald A., Wesolowski, David J.: POTENTIOMETRIC DETERMINATION OF THE STABILITY CONSTANTS FOR CD2+-ACETATE COMPLEXES TO 200 DEGREES C

- 3:15 PM Ridley, Moira K.*, Palmer, Donald A., Wesolowski, David J., Kettler, Richard M.: ASSOCIATION QUOTIENTS OF ALUMINUM MALONATE COMPLEXES IN AQUEOUS SOLUTIONS
- 3:30 PM Zhang, Ronghua*, Hu, Shumin: KINETICS OF LONG-TERM MINERAL DISSOLUTIONS IN FLOW SYSTEMS AND THEIR COMPLEX DYNAMIC BEHAVIORS
- 3:45 PM Sykes, Dan*, Baumgartner, Lukas, Kubicki, J. D.: ORGANIC ACID COMPLEXATION OF AQUEOUS-PHASE ALUMINUM: NMR CONSTRAINTS
- 4:00 PM Kubicki, J. D.*, Apitz, S. E., Sykes, Dan G.: MOLECULAR ORBITAL CALCULATIONS OF AQUEOUS-PHASE ALUMINUM: ALUMINUM HYDROLYSIS AND ORGANIC LIGAND COMPLEXATION
- 4:15 PM McCollom, Thomas M.*, Simoneit, B. R. T., Shock, E. L.: METASTABLE EQUILIBRIUM AMONG BENZENOID DERIVATIVES IN HYDROTHERMAL EXPERIMENTS AND GEOLOGIC FLUIDS
- 4:30 PM Shock, Everett L.*: FLUID MIXING, ORGANIC SYNTHESIS, AND LIFE AT HIGH TEMPERATURES
- 4:45 PM Schulte, M. D.*, Shock, E. L.: ORGANIC COMPOUNDS IN GEOLOGIC FLUIDS: PREDICTING PARTIAL MOLAL VOLUMES AND HEAT CAPACITIES AT HIGH TEMPERATURES
- 5:00 PM Onstott, T. C.*, Tseng, H.-Y., Phelps, T. J., Colwell, F. S.: ENTRAPMENT OF DEEP, SUBSURFACE BACTERIA OVER GEOLOGICAL TIME INTERVALS: MECHANISMS AND OCCURRENCES
- 5:15 PM Yao, Q. J.*, Onstott, T. C., La Freniere, L., Lorenz, J. C., Bostick, N. H.: THERMAL AND HYDRODYNAMIC HISTORY OF SOUTHERN PICEANCE BASIN: NEW FLUID INCLUSION, VITRINITE REFLECTANCE,

Thursday, Nov 09, GS--Geochemistry V: Analytical and Sedimentary Geochemistry

Ernest N. Morial Convention Center, 24, 1:00 PM ----- Eirik Krogstad and Scott Carpenter, Presiding

- 1:00 PM Kirschner, D. L.*, Masson, H., Cosca, M. A., Hunziker, J. C., Sharp, Z. D.: AN 40AR/39AR, RB-SR, MICROPROBE, XRD, AND STABLE ISOTOPE STUDY OF FINE-GRAIN WHITE MICAS FROM LIMESTONE
- 1:15 PM O'Neill, James A., Jr.*, Neal, Clive R., Jain, Jinesh: DETERMINATION OF PLATINUM GROUP ELEMENTS AND GOLD BY INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY FOLLOWING SEPARATION BY
- 1:30 PM Conrad, Mark E.*, Flexser, Steven, Thomas, Donald M.: STABLE ISOTOPE GEOCHEMISTRY OF SMECTITES FROM THE EAST RIFT ZONE OF KILAUEA VOLCANO, HAWAII
- 1:45 PM McKibben, M. A.*: STABLE ISOTOPIC GROWTH ZONING IN CRYSTALS: SOME MODELS AND THEIR APPLICATIONS
- 2:00 PM Brabander, Daniel J.*, Giletti, Bruno J.: TEST OF A NEW METHOD TO DETERMINE COOLING HISTORIES OF IGNEOUS INTRUSIONS USING RB-SR SYSTEMATICS AND SR DIFFUSION KINETICS
- 2:15 PM Romanek, C. S.*, Perry, E. C., Socki, R. A., Gibson, E. K., Jr.: STABLE ISOTOPE ANALYSIS OF DIATOMIC OXYGEN GAS FROM QUARTZ
- 2:30 PM Krogstad, Eirik J.*, Leiker, Sarah E., Walker, Richard J.: EMPIRICAL EVIDENCE FOR EUROPIUM VALENCE STATES IN A GRANITIC MELT
- 2:45 PM Kastner, Miriam*: EVIDENCE FOR RECYCLING OF FLUIDS AND SEDIMENTS IN SUBDUCTION ZONES
- 3:00 PM Barth, Susanne*, Wernli, Beat, Kopajtic, Zlatko, Heinrich, Christoph A., van Quadt, Albrecht, Schmidt, Diether, Gerwinski, Wolfgang: BORON ISOTOPE APPLICATION FOR TRACING MIXING
- 3:15 PM Lee, Dongho*, Carpenter, Scott J., McConnaughey, T.: ISOTOPIC DISEQUILIBRIUM IN MARINE CALCAREOUS ALGAE
- 3:30 PM Lev, S. M.*, McLennan, S. M., Niemitz, J., Algeo, T. J.: PALEOPRODUCTIVITY WITHIN THE SOUTHERN WELSH BASIN: CONSTRAINTS ON THE DEPOSITION OF AN ORGANIC-RICH FACIES
- 3:45 PM Stuart-Williams, Hilary Le Q.*, Schwarcz, Henry P.: PROCESSES CONTROLLING THE POST-BURIAL OXYGEN ISOTOPIC COMPOSITION OF BONE AND OTHER PHOSPHATES
- 4:00 PM Karlsson, H. R.*, Lehman, T., Alomar, L., O'Reilly, J., Soliz, B., Browning, J.: STABLE ISOTOPIC STUDIES OF THE SOUTHERN HIGH PLAINS CALICHE
- 4:15 PM Wang, Zhaosheng*, Meyers, William J., Hanson, Gilbert N.: GEOCHEMISTRY OF CALCRETES IN THE NEW HAVEN ARKOSE (TRIAS.), HARTFORD BASIN, CONNECTICUT
- 4:30 PM Newman, Brent D.*, Campbell, Andrew R.: EXAMINATION OF THE SPATIAL & TEMPORAL ORDER OF CALCITE PRECIPITATION IN BANDELIER TUFF FRACTURES, LOS ALAMOS, NEW MEXICO
- 4:45 PM Ghazban, Fereydoun*: EPIGENETIC DOLOMITIZATION IN THE LOWER CRETACEOUS CARBONATES, WESTCENTRAL IRAN: GEOCHEMICAL EVIDENCE

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