

The Geochemical News

Biannual Newsletter of the Geochemical Society

Number 73

V. M. GOLDSCHMIDT CONFERENCE A Conference to Mark the Centennial Year of V. M. Goldschmidt's Birth

April 1988

General Information

The V. M. Goldschmidt Conference will be held Wednesday, May 11, to Friday, May 13, 1988 to focus on the chemical aspects of the earth and planetary sciences. It is sponsored by The Geochemical Society, the European Association of Geochemistry, the International Association of Geochemistry and Cosmochemistry, the Mineralogical Society of America, and the Association of Exploration Geochemists. The Society of Environmental Geochemistry and Health is a participating society.

The Goldschmidt Conference will take place at the Hunt Valley Inn, 25 km north of downtown Baltimore. It is scheduled just prior to the spring meeting of the American Geophysical Union, May 15-20, 1988 also in Baltimore.

Registration and Fees (forms on p. 11)

Please be sure to check which sessions you will be attending, if a guest will be accompanying you, and any special activities you and your guest will be interested in attending. This information will help the conference staff estimate the expected attendance at each session and assign appropriate rooms.

The hotel reservation form should be mailed directly to the Hunt Valley Inn. Please be certain to give all the information as requested. Note that early reservations are advised because of limited capacity in the headquarters hotel. Alternative housing locations will be suggested after the headquarters hotel is filled.

The registration fees for the conference are as follows:

Members of sponsoring societies	\$100
Nonmembers	120
Students	50
Accompanying guests	30

There will be no one-day registrations. Payment of the registration fee may be made in U.S. dollars, by check, money order, VISA or by MasterCard. The fee is completely refundable if written cancellation is received before March 31, 1988; half the fee will be returned for cancellations received between April 1 and May 1 and no refunds will be made after May 1.

The registration fees include the following: attendance at all technical sessions, a conference packet with name badge, the opening reception on Tuesday, May 10, refreshment breaks during the conference, and one copy of the conference abstract volume.

*Two double beds for 1-4 occupants. Roll-away bed for 5th occupant \$11.20 inc. tax.

A banquet is planned for the evening of Thursday, May 12 at an additional charge of \$27. For reservations, please check the appropriate space on the advance registration form and include with the registration fee the additional amount. Because of space limitations, attendance at the banquet will be limited, so early registration is recommended.

Advance registrations will be acknowledged by letter with a confirmation receipt. Additional information on travel, restaurants, and on-site check-in times will be included.

Accommodations

A block of rooms has been reserved at the Hunt Valley Inn (conference site) for conference participants. Attached is a hotel reservation form which should be filled out and sent directly to the Hunt Valley Inn. Reservations must be made by April 1, 1988. Rates are \$96.32 per night including tax, * with two double beds or a room with one king size bed. State your preference on the hotel registration form.

Meals are available at the Hunt Valley Inn and at numerous other restaurants surrounding the conference site.

Conference Schedule

Tuesday, May 10

7:00-9:00 p.m. General Reception (cash bar)

Wednesday, May 11

8:30-12:00 Noon Technical Sessions

9:00-11:00 a.m. Poster Session

1:30- 5:00 p.m. Technical Sessions

2:00- 4:00 Poster Session

8:00-10:00 Plenary Session

8:00-10:00 Reception for Guests

Thursday, May 12

8:30-12:00 Noon Technical Sessions

9:00-11:00 a.m. Poster Session

1:30- 5:00 p.m. Technical Sessions

2:00- 4:00 Poster Session

6:30- 7:30 Cash Bar Reception

7:30-10:00 Optional Banquet

Friday, May 13

8:30-12:00 Noon Technical Sessions

9:00-11:00 a.m. Poster Session

1:30- 5:00 p.m. Technical Sessions

2:00- 4:00 Poster Session

Field Trips

The following field trips are planned for Saturday, May 14, or Sunday, May 15:

1. **Iron, Copper, and Cobalt/Nickel Mineralization and Ore Genesis**, Sykesville, Maryland (half day). Organizers: Phil Candela and Ann Wylie. University of Maryland. Saturday, May 14. Cost: \$30

2. **Gabbros and Granites in the Maryland Piedmont** (whole day). A. K. Sinha, Virginia Polytechnic Institute and State University, Sunday, May 15. Cost: \$45
3. **Metamorphosed Sedimentary Rocks of the Central Appalachian Piedmont** (whole day). George Fisher, Johns Hopkins University, Saturday, May 14. Cost: \$45
4. **Mineral Collecting in the Pegmatites of the Amelia District, Virginia** (whole day). Keith Frye, Old Dominion University, Sunday, May 15. Cost: \$45
5. **Building Stones of the Washington, D.C. Area and the Effects of Acid Rain on the Deterioration of Monuments and Buildings** (whole day). Mac Ross and Harvey Belkin, U.S. Geological Survey, Saturday, May 14. Cost: \$45
6. **The Hydrogeology and Environmental Problems of the Potomac River Estuary** (whole day). John Moore, U.S. Geological Survey, Saturday, May 14. Cost: \$45
7. **Unstructured trip to the Smithsonian Institution and Environs, Washington, D.C.** (whole day) Sunday, May 15. Cost: \$30

Please check the appropriate space on the registration form if you plan to attend one or more of these field trips, and include the fee with your registration.

Special Activities for Guests

The following activities are planned for accompanying guests Wednesday, May 11 through Friday, May 13:

1. **Baltimore: Its History, Culture, and Charm**
Date: Wednesday, May 11 Time: 9:00–4:30 Cost: \$24
A tour guide will lead you on a full-day tour of the city. Highlights include Johns Hopkins Hospital, Fort McHenry, Maryland Historical Society, Harborplace, and the B&O Railroad Museum. Tour includes transportation, guide, and all admissions. Lunch on your own at Harborplace.
2. **Annapolis: Home of the U.S. Naval Academy**
Date: Wednesday, May 11 Time: 9:00–4:30 Cost: \$24
The colonial costumed guides will take you on a walking tour of Annapolis. Visit the Maryland State House, St. Johns College, and the U.S. Naval Academy. Tour includes transportation and colonial costumed guides. Lunch on your own with time for shopping at the many antique shops that line the streets and the Annapolis Dock.
3. **Baltimore: Its Scents and Its Seaport**
Date: Thursday, May 12 Time: 9:00–5:15 Cost: \$24
Tour the McCormick Spice and Tea Company to learn the origins of exotic spices with refreshments provided in the Tea House. Lunch on your own is available at the Lexington Market before leaving for the Walters Art Gallery. Board the Patriot for a 1½ hour cruise around the port of Baltimore. Tour includes guide, transportation, and all admissions.
4. **A Day in Baltimore County**
Date: Thursday, May 12 Time: 9:00–4:15 Cost: \$24
Visit the Ladew Topiary Gardens and the home of Henry S. Ladew which is filled with English antiques, photographs, and sketches. Learn about wine-making at the Boordy Vineyards and sample several wines in the tasting rooms. Tour includes guide, transportation, and admissions. Lunch on your own at a Hunt Valley shopping mall.
5. **Baltimore: City by the Bay**
Date: Friday, May 13 Time: 9:30–3:30 Cost \$24
Begin this walking tour with a visit to the Maryland Science Center and a trip to the National Aquarium. Visit the top of the World at the World Trade Center for a breath-taking view of the city and browse at the International Bazaar on the 27th floor of the World Trade Center. Tour includes guide, transportation, and all admissions. Lunch on your own at Harborplace.

Please check the appropriate space on the advance registration form if you or your guest plan to attend one or more of the activities and include the fee with your registration.

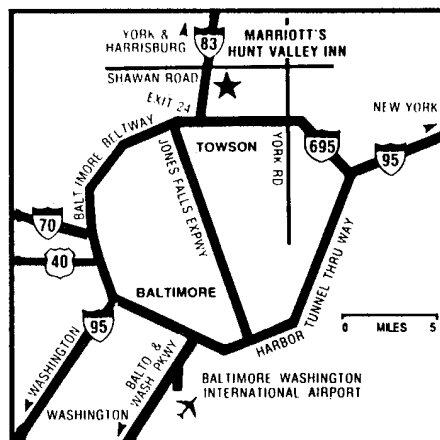
Short Course

A Mineralogical Society of America short course, "Spectroscopic Methods in Mineralogy and Geology," organized by Frank Hawthorne, will be held in The Embassy Suites Hotel, across from the Hunt Valley Inn on May 13-15. A registration form is available in the November issue of the M.S.A. newsletter. Contact the M.S.A. business office for more details (Mineralogical Society of America, 1625 I Street N.W., Suite 414, Washington, D.C. 20006).

Location and Travel

The Hunt Valley Inn is located approximately 25 km north of downtown Baltimore on Interstate 83. The area is served by the Baltimore-Washington International Airport, which is approximately 35 minutes away from the Hunt Valley Inn. Bus transportation will be available from the airport to the Hunt Valley Inn. Additional information concerning transportation will be sent in the registration acknowledgment. (See the area map below.) Please check the appropriate spaces on the advance registration form concerning travel.

If further information is necessary, please contact:
Donna Ricketts, Conference Coordinator
409 Keller Building
The Pennsylvania State University
University Park, PA 16802 USA
Phone: (814) 863-1743



NUMBER OF MILES TO BALTIMORE FROM:	
HARRISBURG	76
NEW YORK	199
PHILADELPHIA	96
WASHINGTON, D.C.	37

Geochemical Society Luncheon: Wed. May 11, 12 noon to 1.30 p.m., Embassy Ballroom, Embassy Suites Hotel. All are welcome. Tickets (\$13) at Conference Registration Desk, Hunt Valley Inn (directly across the road). The Goldschmidt Medal and Strock Honorarium for 1987 will be presented to Wallace S. Broecker, Columbia University.

Summary of Sessions

ROOM	AM	PM
WEDNESDAY, MAY 11		
Maryland 1 + 2	Modern Concepts in Crystal Chemistry (Symposium organized by G. V. Gibbs)	Modern Concepts in Crystal Chemistry (Symposium organized by G. V. Gibbs)
Maryland 3	Lithosphere-Asthenosphere Interactions	Mineralogy and Petrology
Maryland 4	Ore-Forming Processes: Source Regions and Transport of Metals (Symposium organized by M. Einaudi)	Ore-Forming Processes: Source Regions and Transport of Metals (Symposium organized by M. Einaudi)
Salon C + D	Geochemistry of Sulfur	Geochronology and Radioisotopes
Salon E	Trondhjemites (Symposium organized by F. Barker)	Granitoids
Salon F	International Geochemical Mapping (Symposium organized by A. Darnley)	
Hunt	Poster Session Poster set up 10:00 -10:30 AM	Poster Session MSA Reception: 5:00-6:30 PM
Valley		Ingerson Lecture of the IAGC: 4 PM (A. E. Ringwood)
THURSDAY, MAY 12		
Maryland 1 + 2	Archean Environment (Symposium organized by J. C. G. Walker)	Paleoatmospheres and Oceans (Symposium organized by J. C. G. Walker)
Maryland 3	Platinum Group Elements (Symposium organized by L. Dunn and G. Curtin)	Platinum Group Elements (Symposium organized by L. Dunn and G. Curtin)
Maryland 4	Low Temperature Geochemistry	Environmental Geochemistry (Symposium organized by J. O. Nriagu)
Salon C + D	Diagenesis of Humic Substances (Symposium organized by P. G. Hatcher)	Diagenesis of Humic Substances (Symposium organized by P. G. Hatcher)
Salon E + F	Crystal Chemistry	Metamorphism and Metasomatism
Hunt	Cosmogenic Radionuclides (Symposium organized by L. Brown and D. Lal)	Cosmogenic Radionuclides (Symposium organized by L. Brown and D. Lal)
FRIDAY, MAY 13		
Maryland 1 + 2	11th Symposium on Geochemical Cycles (Symposium organized by B. Gregor)	11th Symposium on Geochemical Cycles (Symposium organized by B. Gregor)
Maryland 3	Mineral Deposits	Hydrothermal Solutions
Maryland 4	Environmental Geochemistry (Symposium organized by J. O. Nriagu)	Environmental Geochemistry (Symposium organized by J. O. Nriagu)
Salon C + D	Organic Geochemistry (Symposium organized by R. P. Philp)	Organic Geochemistry (Symposium organized by R. P. Philp)
Salon E + F	Mantle Mineralogy and Petrology (Symposium organized by D. Egglar)	Mantle Mineralogy and Petrology (Symposium organized by D. Egglar)
Hunt	Cosmogenic Radionuclides (Symposium organized by L. Brown and D. Lal)	Cosmogenic Radionuclides (Symposium organized by L. Brown and D. Lal)

Schedule of Presentations

WEDNESDAY, MAY 11, 1988

WEDNESDAY AM

MODERN CONCEPTS IN CRYSTAL CHEMISTRY, Maryland 1 & 2
M. S. T. Bukowinski, Chairman

8:30 J. K. Burdett: MODERN ELECTRONIC IDEAS FOR SOLIDS

Wednesday

8:50 J. Downs: THE ROLE OF THE ONE-ELECTRON DENSITY FUNCTION, ITS FIELDS AND FUNCTIONALS IN CRYSTAL CHEMISTRY

9:10 A. C. Lasaga, G. V. Gibbs: REACTION PATHWAYS: TRANSITION STATE THEORY AND Si-O-Si CHEMICAL DYNAMICS USING AB-INITIO THEORY

Schedule of Presentations

WEDNESDAY, MAY 11, 1988

WEDNESDAY AM

9:30 J. A. Tossell: THEORETICAL AND EXPERIMENTAL STUDIES OF THE NATURE OF THE TRANSITION METAL TO SULFUR BOND

9:50 C. W. Burnham: ENERGETICS OF CATION DISORDER IN ROCK-FORMING SILICATES: INSIGHTS FROM QUANTITATIVE IONIC MODELING

10:10 COFFEE

10:40 J. J. Duck, A. J. Cohen: INFLUENCE OF OH/OH + F RATIO IN TOPAZ ON SUBSTITUTION OF Ge AND Ga FOR Si IN TETRAHEDRAL SITES

11:00 W. H. Baur: ANOTHER LOOK AT ADDITIVITIES OF VOLUMES AND RADII

11:20 M. O'Keefe: IONIC RADII IN CRYSTALS

11:40 G. V. Gibbs, M. B. Boisen, Jr., Ph. D'Arco: SiO BOND LENGTH VARIATION: SiO₂ POLYMORPHS AND CLATHRASILS

LITHOSPHERE-ASTHENOSPHERE INTERACTIONS, Maryland 3
B. R. Doe, Chairman

8:30 R. Petrini, P. Armienti, F. Innocenti, M. Pompilio: Sr AND Nd ISOTOPES AND GEOCHEMISTRY OF RECENT LAVAS FROM MT. ETNA (ITALY): INFERENCES ON MANTLE SOURCES

8:50 R. W. Kay, S. M. Kay: RECYCLING AT CONVERGENT PLATE MARGINS

9:10 A. Peccerillo: COMPOSITIONAL VARIATION IN THE UPPER MANTLE UNDER THE ITALIAN PENINSULA AS INFERRED FROM TRACE ELEMENT AND Sr ISOTOPE GEOCHEMISTRY OF ROMAN PROVINCE AND AEOLIAN ARC VOLCANISM

9:30 J. P. Davidson, N. J. McMillan, G. Wörner, R. S. Harmon: THE INFLUENCE OF CONTINENTAL LITHOSPHERE ON VOLCANIC ARC MAGMAS: GEOCHEMISTRY OF THE PAYACHATAS REGION, C. ANDES

9:50 J.-M. Luck, W. J. Pegrarn, C. Allegre: OSMIUM ISOTOPES AND EVOLUTION OF THE MANTLE

10:10 COFFEE

10:40 R. J. Walker, S. B. Shirey, S. Balakrishnan, M. F. Horan: Re-Os SYSTEMATICS OF KOMATIITIC AND THOLEIITIC AMPHIBOLITES FROM THE GOLD-BEARING, KOLAR SCHIST BELT, KARNATAKA, INDIA

11:00 P. Sarda, T. Staudacher, C. Allegre: NEON ISOTOPES IN BASALTS

11:20 D. Ben Othman, C. Allegre: Th/U IN OCEANIC BASALTS STUDIED BY ²³⁰Th/²³⁸U

11:40 P. Deines: CAUSES OF CORRELATED VARIATIONS IN THE NITROGEN CONTENT AND CARBON AND NITROGEN ISOTOPIC COMPOSITION OF DIAMONDS

ORE FORMING PROCESSES, Maryland 4
M. T. Einaudi, Chairman

8:30 M. D. Barton: PETROLOGICAL CONSTRAINTS ON THE DEVELOPMENT OF FLUORINE-RICH MAGMAS AND ORE DEPOSITS

8:50 P. Candela: ON PROGRESSIVE MAGMATIC AQUEOUS PHASE EVOLUTION

Schedule of Presentations

WEDNESDAY, MAY 11, 1988

WEDNESDAY AM

ORE FORMING PROCESSES, Maryland 4
M. T. Einaudi, Chairman

9:10 E. S. Ilton, D. R. Veblen: Cu IN SHEET SILICATES FROM ROCKS ASSOCIATED WITH PORPHYRY COPPER DEPOSITS: A TRANSMISSION ELECTRON MICROSCOPY STUDY

9:30 J. H. Dilles, M. T. Einaudi: ALTERNATIVE SOURCES OF METALS AND FLUIDS IN THE YERINGTON PORPHYRY COPPER DISTRICT, NEVADA

9:50 K. Muehlenbachs, B. E. Nesbitt: GENERATION OF MESOTHERMAL Au DEPOSITS BY DEEP CONVECTION OF METEORIC WATER

10:10 COFFEE

10:40 R. I. Hill, I. H. Campbell: ISOTOPE TRACING OF THE SOURCE OF MINERALIZATION IN ARCHEAN GREENSTONE-HOSTED GOLD DEPOSITS, NORSEMAN, W. AUSTRALIA

11:00 M. D. Hannington, S. D. Scott: SULFIDATION REACTIONS AS GUIDES TO GOLD DISTRIBUTION IN MODERN AND ANCIENT VOLCANOGENIC MASSIVE SULFIDE (VMS) DEPOSITS

11:20 W. E. Seyfried, Jr., M. E. Berndt: HYDROTHERMAL ALTERATION PROCESSES AT MID-OCEAN RIDGES: EXPERIMENTAL AND THEORETICAL CONSTRAINTS ON CA-FIXATION AND HEAVY METAL MOBILITY

11:40 U. M. Graham, H. Ohmoto: ROLE OF ANHYDRITE IN THE FORMATION OF MARCASITE, PYRITE, WURTZITE, SPHALERITE AND CHALCOPYRITE IN THE BLACK-SMOKER CHIMNEYS

GEOCHEMISTRY OF SULFUR,
Salon C-D, E. C. Spiker, Chairman

9:10 A. M. Bailey, J. F. Sherrill, J. Blackson: CONTROLS ON SULFUR DISTRIBUTION, FORMS OF SULFUR, AND PYRITE FORMATION IN RECENT ORGANIC-RICH SEDIMENTS OF THE MISSISSIPPI DELTA

9:30 D. Shea, W. A. Maccrehan: TRACE METAL SPECIATION IN POREWATERS OF CHESAPEAKE BAY SEDIMENTS

9:50 M. A. A. Schoonen, H. L. Barnes: KINETIC PATHS FOR FORMATION OF FeS₂ BELOW 100° C

10:10 COFFEE

10:40 C. J. Kaiser, H. Ohmoto: MECHANISMS OF SULFATE REDUCTION BY ORGANIC MATTER

11:00 C. S. Eldridge, M. A. McKibben: SULFUR ISOTOPIC SYSTEMATICS IN THE SALTON SEA GEOTHERMAL SYSTEM: A SHRIMP ION MICROPROBE STUDY OF MICRON-SCALE δ³⁴S VARIATIONS

11:20 X. Chu, H. Ohmoto: RATE LAW FOR ISOTOPIC EXCHANGE INVOLVING INTERMOLECULAR AND INTRAMOLECULAR REACTIONS

11:40 E. L. Zodrow, A. P. Beaton: A MODEL FOR SULFUR IN COAL BY OBLIQUE FACTOR METHODS: SYDNEY COAL-FIELD (UPPER CARBONIFEROUS), NOVA SCOTIA, CANADA

TRONDHJEMITES, Salon E,
F. Barker, Chairman

8:30 F. Barker, J. G. Arth: INTRODUCTION TO SYMPOSIUM ON TRONDHJEMITE--FROM GOLDSCHMIDT AT TRONDHJEM, 1916, TO THE PRESENT

WEDNESDAY, MAY 11, 1988

8:50 W. B. Size, D. Roberts, F. C. Wolff: CONTRASTING TRONDHJEMITE AND PLAGIOGRANITE OCCURRENCES IN THE NORWEGIAN CALEDONIDES

9:10 J. L. Rubenstone, W. K. Conrad, J. R. Bowman, T. L. Pavlis: ORIGIN OF EARLY CRETACEOUS TRONDHJEMITE AND TONALITE OF THE WESTERN CHUGACH MOUNTAINS, SOUTHERN ALASKA

9:30 S. S. Sorensen: TRONDHJEMITES DERIVED FROM PARTIAL MELTING OF GARNET HORNBLENDITES IN A SUBDUCTION ZONE METAMORPHIC SETTING

9:50 W. P. Leeman: TRACE ELEMENT EVIDENCE FOR ORIGIN OF SILICIC MAGMAS VIA PARTIAL MELTING OF MAFIC PROTOLITHS: MOUNT ST. HELENS (MSH) RHYODACITES AND CANYON MT. COMPLEX (CMC) PLAGIOGRANITES AS EXAMPLES

10:10 COFFEE

10:40 C. F. Miller, M. D. Barton, M. A. Galliski, S. G. Weaver, R. M. Bruce: TWO-MICA TRONDHJEMITES

11:00 R. P. Rapp, E. B. Watson, C. F. Miller: EXPERIMENTAL PARTIAL MELTING OF AMPHIBOLITE AT 8-28 KBAR: COMPOSITIONS OF LIQUIDS AND COEXISTING CRYSTAL RESIDUES

11:20 J. S. Beard, G. E. Lofgren: TONALITE GENESIS BY GREENSTONE MELTING

11:40 B. R. Hacker: MICROCHEMICAL AND MICROSTRUCTURAL CHANGES DURING EXPERIMENTAL METAMORPHISM OF AMPHIBOLITE

INTERNATIONAL GEOCHEMICAL MAPPING, Salon F, A. Darnley and R. Learned, Chairman

8:30 A. G. Darnley: GEOCHEMICAL MAPPING: A NEW INTERNATIONAL PROJECT

8:50 B. Bolviken: THE NORDKALOTT PROJECT: A MULTIDISCIPLINE MAPPING PROGRAMME IN NORTHERN FENNOSCANDIA

9:10 J. A. Plant, M. D. Forrest, P. M. Green, R. T. Smith, R. A. C. Williams: REGIONAL GEOCHEMISTRY IN THE MODELLING OF MINERAL DEPOSITS

9:30 J. M. McNeal: GEOCHEMICAL MAPPING IN THE UNITED STATES

9:50 J. S. DuVal: APPLICATIONS OF MODERN GAMMA-RAY TECHNIQUES IN GEOCHEMISTRY

10:10 COFFEE

10:40 R. G. Garrett: REGIONAL GEOCHEMICAL MAPPING BY THE GEOLOGICAL SURVEY OF CANADA

11:00 B. Bolviken: PLANS FOR GEOCHEMICAL MAPPING OF WESTERN EUROPE

11:20 X. Xuejing: PROBLEMS, STRATEGICAL AND TACTICAL, IN INTERNATIONAL GEOCHEMICAL MAPPING

11:40 PANEL DISCUSSION

WEDNESDAY PM

MODERN CONCEPTS IN CRYSTAL CHEMISTRY, Maryland 1 + 2
J. K. Burdett, Chairman

2:00 N. L. Ross, R. M. Hazen, L. W. Finger, R. J. Angel, H. K. Mao: RECENT ADVANCES IN HIGH-PRESSURE CRYSTALLOGRAPHY

WEDNESDAY, MAY 11, 1988

2:20 A. Navrotsky: THERMOCHEMISTRY, CRYSTAL CHEMISTRY, AND GEOCHEMISTRY - HIGH PRESSURE SILICATES AS A TEST OF BASIC CONCEPTS

2:40 C. T. Prewitt: THE EFFECT OF CHANGES IN TEMPERATURE, PRESSURE, AND COMPOSITION ON CRYSTAL STRUCTURES

3:00 M. S. T. Bukowinski, A. Amotz: HIGH PRESSURE PHYSICS OF OXIDES THROUGH PARAMETRIC MANY-BODY HAMILTONIANS

3:20 Y. Tardy, P. Vieillard: ESTIMATION OF ENTHALPIES OF FORMATION OF MINERALS BASED ON THEIR REFINED CRYSTAL STRUCTURES

MINERALOGY AND PETROLOGY,
Maryland 3, O. C. Kopp, Chairman

1:30 K. A. Garland: MINERAL CHEMISTRY OF RELIC MAGMATIC PHASES FROM ALPINE OLISTOLITHS: EVIDENCE FOR MORB AND ALKALIC MAGMATISM IN THE PIEMONT BASIN

1:50 V. T. McLemore: GEOCHEMISTRY OF CARBONATITES FROM NEW MEXICO

2:10 R. B. Thomas, A. E. Burford, L. L. Chyi: GEOCHEMISTRY OF HEAVY MINERALS IN PROVENANCE STUDIES

2:30 E. C. Grunsky, R. M. Easton, P. C. Thurston, L. S. Jensen, J. M. Howe: A MULTIVARIATE INVESTIGATION OF THE CHEMICAL VARIABILITY OF ARCHEAN VOLCANIC ROCKS

2:50 O. C. Kopp, D. K. Reeves, M. Rivers: INFLUENCE OF Fe, Mn AND OTHER TRACE ELEMENTS ON CATHODOLUMINESCENCE - A STUDY USING SYNCHROTRON RADIATION

3:10 J. Chaudhuri, N. B. Jadavpur: NOTES ON THE ALTERED ILMENITES FROM THE BEACH PLACERS OF SOUTH INDIA

ORE FORMING PROCESSES,
Maryland 4, M. Einaudi, Chairman

1:30 W. C. Shanks, III, J. F. Slack: COMPARATIVE STUDIES OF METAL AND SULFUR SOURCES IN MODERN AND ANCIENT BESSHI-TYPE SULFIDE DEPOSITS

1:50 K. A. Geer, H. Ohmoto: CHEMICAL PROCESSES OF ORE FORMATION AT THE MEGGEN MINE: EVIDENCE FOR CARBONATE REPLACEMENT

2:10 S. A. Kissin: THE FIVE-ELEMENT SUITE: AN INDICATOR OF NON-MAGMATIC ORE TYPES RELATED TO RIFTING AND BASIN DEVELOPMENT

2:30 D. S. Shenberger, C. H. Gammons, H. L. Barnes: THE SOLUBILITY OF GOLD AND SILVER IN AQUEOUS SULFIDE SOLUTIONS

2:50 G. R. Robinson, Jr., J. J. Hemley, G. L. Cygan: Fe, Pb, AND Zn RATIOS IN SULFIDE-SATURATED CHLORIDE-DOMINATED HYDROTHERMAL FLUIDS

3:10 M. Krohn: NITROGEN TRANSPORT AS NH₄ IN EPITHERMAL Au-Hg SYSTEMS

GEOCHRONOLOGY AND RADIOISOTOPES, Salon C & D,
E. Anders, Chairman

1:30 J. L. Birck, C. Allegre: Cr AND Ti ISOTOPIC ANOMALIES IN METEORITES

1:50 M. Tang, E. Anders: INTERSTELLAR GRAINS IN METEORITES

Schedule of Presentations

WEDNESDAY, MAY 11, 1988

WEDNESDAY PM

2:10 Y.-N. Shieh, X. Zhang: OXYGEN ISOTOPE GEOCHEMISTRY OF PRECAMBRIAN SHALES IN THE KAAPVAAL CRATON, SOUTH AFRICA

2:30 C. T. Barrie, D. W. Davis, R. Stewart: HIGH PRECISION U-PB AGES FOR TIME-STRATIGRAPHIC CORRELATION OF ARCHEAN MASSIVE SULFIDE-BEARING RHYOLITES, WESTERN ABITIBI SUBPROVINCE, CANADA

2:50 B. D. Leavy, F. M. Phillips, S. S. Smith, D. Elmore, P. Kubik: MEASUREMENT OF THE IN SITU BUILDUP OF COSMOGENIC ³⁶Cl IN ROCKS: A METHOD FOR SURFACE-EXPOSURE DATING

3:10 W. J. Rink, A. L. Odum: POSSIBLE EVIDENCE FOR A NEW ELECTRON PARAMAGNETIC RESONANCE (EPR) INTRINSIC DEFECT QUARTZ GEOCHRONOMETER

3:30 D. J. Terrell, J. G. Mitchell, A. D. Saunders, G. Rogers, S. P. Verma: K-Ar GEOCHRONOLOGY OF TRES VIRGENES VOLCANOE, BAJA CALIFORNIA: EVIDENCE FOR INITIAL ARGON AND POSSIBLE IMPLICATIONS FOR THE SCALE OF MAGMA HOMOGENEITY

GRANITIODS, Salon E
G. K. Czamanske, Chairman

2:00 L. Andre, J. Klerkx, M. Busrewil: THE ORIGIN OF A-TYPE GRANITES: TRACE ELEMENT AND Sr-Nd ISOTOPIOC CONSTRAINTS FROM THE UWEINAT-ARCHENU RING-COMPLEXES (S.E. LIBYA)

2:20 R. M. Bruce, S. G. Weaver, E. P. Nelson: PROGRESSIVE CHANGE IN PERALUMINOUS GRANITIC MAGMATISM: DECREASING CRUSTAL INVOLVEMENT IN THE SOUTHERN PATAGONIAN BATHOLITH

2:40 G. K. Czamanske, B. W. King, P. Lamothe, J. R. Budahn: REE COMPLEXITIES IN SUBVOLCANIC GRANITIODS, QUESTA, NEW MEXICO

3:00 R. I. Hill, I. H. Campbell: ION PROBE ZIRCON U-Th-Pb STUDIES OF GRANITE SOURCE ROCKS AND EMPLACEMENT, NORSEMAN AREA, WESTERN AUSTRALIA, AND IMPLICATIONS FOR THE EVOLUTION OF ARCHEAN CRUST

3:20 R. E. Meintzer, P. Cerny: EVOLUTION OF LATE ARCHEAN GRANITIOD ROCKS AND PEGMATITES OF THE YELLOWKNIFE BASIN, NORTHWEST TERRITORIES, CANADA

POSTER SESSION, Hunt
J. D. Rimstidt, Chairman
Posters set up before 10:30 AM and on display all day. Authors present 5:00 - 6:30 PM

1. K. H. Esbensen: CHEMOMETRICS IN GEOCHEMISTRY

2. S. M. Bill: DISCRIMINANT FUNCTIONS IN TRACE ELEMENT GEOCHEMISTRY

3. J. L. Rao: ERROR PROPAGATION ANALYSES IN GEOCHEMICAL CALCULATIONS: (I) PRINCIPLES AND METHODS

4. E. L. Grossman, R. A. Sprague, J. A. Alcalaherrera: FACTORS INFLUENCING THE ISOTOPE STRATIGRAPHY OF THE COCCOLITH-RICH SIZE FRACTION IN GULF OF MEXICO SEDIMENTS

5. Zhang Ligang: Pb, Sr, Nd AND O ISOTOPE COMPOSITIONS OF SOME MESOZOIC GRANITIODS IN EASTERN CHINA AND THEIR GEOLOGIC SIGNIFICANCE

WEDNESDAY, MAY 11, 1988

6. Zhang Ligang: A STUDY ON THE STABLE ISOTOPES OF SOME W-SN DEPOSITS IN SOUTHERN CHINA

7. J. N. B. Chaudhuri: NOTES ON THE GEOCHEMISTRY OF THE MONAZITE FROM SOUTH INDIA

8. J. N. B. Chaudhuri: HIGH HAFNIUM ZIRCONS FROM THE BEACH PLACERS OF SOUTH INDIA

9. G. S. Roonwal, G. Kumar: PARTITIONING OF ELEMENTS IN 3 SEDIMENT CORES ALONG THE EAST PACIFIC RISE

10. T. P. Wilson, D. T. Long, T. A. Vogel: FIRST ROW TRANSITION ELEMENT ABUNDANCE PATTERNS AS INDICATORS OF GEOLOGIC PROCESSES

11. A. U. Gehring: DIAGENESIS OF FERRIFEROUS MINERAL PHASES IN THE NORTHAMPTON IRONSTONE

12. H. Schorin: THE EFFECT OF Al₂O₃ AND Fe₂O₃ ON THE ELEMENTAL INTERRELATIONS IN A FERRUGINOUS BAUXITE PROFILE AS DETERMINED BY NON PARAMETRIC PARTIAL CORRELATION COEFFICIENTS

13. L. Yan, R. M. Key, R. F. Stallard: INDICATION STUDY OF NUTRIENTS FOR WATER MASS CONTAMINATION IN NEW JERSEY ESTUARIES, BAYS AND COASTAL WATERS

14. P. R. Graff, J. R. Roste, B. Bolviken: ACID SOLUBILITY OF MINERALS, ROCKS AND STREAM SEDIMENTS

15. C. J. Hatton, A. R. Butcher: THE ORIGIN OF CYCLIC UNITS IN THE CRITICAL ZONE OF THE BUSHVELD COMPLEX

16. P. Thy, G. Lofgren, S. P. Jakobsson: EXPERIMENTAL PHASE EQUILIBRIA OF Fe-Ti RICH BASALTS FROM THE RIFT ZONES OF ICELAND: SHIFTS IN PSEUDO-INVARIANT COMPOSITIONS AND THE EVOLUTION OF MILDLY ALKALIC LAVAS

17. R. N. Sukheswala, R. K. Avasia, S. G. Viladkar, L. G. Gwalani: DECCAN BASALTS ASSOCIATED WITH CARBONATITE VOLCANISM, CHHOTA UDAIPUR, GUJARAT, INDIA

18. R. R. Loucks: FORMATION CONSTANTS OF AQUEOUS CUPROUS CHLORIDE COMPLEXES TO 250° C

19. J. C. Groen, J. R. Craig, J. D. Rimstidt: GOLD AND GOLD-SILVER-MERCURY SECONDARY PHASES ON PLACER GOLD GRAINS: CHARACTERISTICS AND GEOCHEMICAL PROCESSES OF FORMATION

20. J. D. Rimstidt, D. L. Jordan: A MIXED FLOW REACTOR MODEL OF QUARTZ PRECIPITATION IN A FRACTURE

21. J. A. Chermak, J. D. Rimstidt: ESTIMATING THE THERMODYNAMIC PROPERTIES OF SILICATE MINERALS AT 298 K

22. P. M. Dove, D. A. Crerar: THE DESIGN OF A HIGH TEMPERATURE MIXED FLOW REACTOR AND THE HYDROTHERMAL DISSOLUTION KINETICS OF QUARTZ IN ELECTROLYTE SOLUTIONS

23. J. D. Morgan, R. J. Donahoe: WATER CHEMISTRY IN A DEEP SANDSTONE AQUIFER

24. R. G. Jonasson, J. McAndrew, R. H. McNutt: USE OF ICP/MS IN THE ANALYSIS OF GEOLOGICAL AND ENVIRONMENTAL SAMPLES FOR TOTAL PHOSPHORUS

WEDNESDAY, MAY 11, 1988

25. C. A. Geiger, B. Winkler, K. Langer: IR SPECTRA OF ALMANDINE - GROSSULAR AND ALMANDINE - PYROPE GARNETS: EVIDENCE FOR EQUIVALENT SITE BEHAVIOR

26. M. Kotarba: CARBON AND HYDROGEN ISOTOPIC COMPOSITIONS OF GASES FROM THE POLISH FLYSCH CARPATHIANS

27. S. Halas, J. Szaran, W. Wolacewicz, B. Jasinska, A. Dudziak: ISOTOPE MICROANALYSIS OF ATMOSPHERIC AND SOIL CO₂ AND TRACES OF GASEOUS HYDROCARBONS ADSORBED IN SEDIMENTARY ROCKS: APPLICATION IN ENVIRONMENTAL AND EXPLORATION GEOCHEMISTRY

28. R. S. Kaufmann: CHLORINE STABLE ISOTOPE COMPOSITIONS OF WATERS DERIVED FROM CRYSTALLINE ROCKS, VOLCANIC WATERS AND GEOTHERMAL WATERS

29. J. Kovach: ZINC AND COPPER CONTENTS OF FRESHWATER CLAM SHELLS

THURSDAY, MAY 12, 1988

THURSDAY AM

ARCHEAN ENVIRONMENT, Maryland 1 + 2, J. C. G. Walker, Chairman

8:30 J. Veizer, P. Laznicka, S. Jansen: MINERALIZATION THROUGH GEOLOGIC TIME

8:50 K. Zahnle, J. Kasting, C. McKay, N. Sleep: LARGE IMPACTS AND THE BIOLOGICAL EVENT HORIZON

9:10 D. R. Lowe: EARLY ARCHEAN ORGANISMS AND DEPOSITIONAL ENVIRONMENTS: THEIR RESPONSE TO LARGE METEORITE IMPACTS DURING LATE ACCRETION

9:40 N. J. Beukes, D. R. Lowe: ENVIRONMENTAL CONTROL ON DIVERSE STROMATOLITE MORPHOLOGIES IN THE 3000 MYR-OLD PONGOLA SUPERGROUP, SOUTH AFRICA

10:00 COFFEE

10:30 R. Buick: LIFE ON THE EARLY ARCHEAN EARTH: THE WARRAWOONA EVIDENCE

10:50 A. H. Knoll: ECOLOGICAL COMPLEXITY ON THE EARLY EARTH

11:20 C. Klein: PRECAMBRIAN BANDED IRON-FORMATIONS AS ENVIRONMENTAL INDICATORS

11:40 K. Burke: AN OXIDIZING ARCHEAN ATMOSPHERE? "

PLATINUM GROUP ELEMENTS I, Maryland 3, C. E. Dunn and M. Zientek, Chairmen

8:30 N. J. Page: THOUGHTS ON PERMISSIVE ENVIRONMENTS FOR PLATINUM-GROUP ELEMENT DEPOSITS- CONVENTIONAL AND UNCONVENTIONAL

9:00 R. T. Helz, N. Rait: BEHAVIOR OF Pt and Pd IN KILAUEA IKI LAVA LAKE, HAWAII

9:20 S. J. Barnes: THE EFFECTS OF PARTIAL MELTING, CRYSTAL FRACTIONATION AND SULPHIDE SEGREGATION ON NI/PD, CU/RH AND CU/PT RATIOS: WITH EXAMPLES FROM NORWAY AND QUEBEC

Schedule of Presentations

THURSDAY, MAY 12, 1988

THURSDAY AM

9:40 D. Gottfried, P. J. Aruscavage, N. Rait: FRACTIONATION OF PALLADIUM AND PLATINUM IN A MESOZOIC DIABASE SHEET, GETTYSBURG BASIN, PA

10:00 R. F. J. Scoates, P. L. Schwann, O. R. Eckstrand: GEOCHEMICAL PATTERNS ASSOCIATED WITH PGE MINERALIZED UNITS OF THE FOX RIVER SILL, NORTHEASTERN MANITOBA, CANADA

10:20 COFFEE

10:40 A. L. Meier, R. R. Carlson, F. E. Lichte, P. J. Aruscavage, G. O. Riddle: DETERMINATION OF THE PLATINUM GROUP ELEMENTS BY FIRE ASSAY-INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY

11:00 G. E. M. Hall, J. C. Pelchat, C. E. Dunn: ANALYTICAL PROCEDURES FOR THE DETERMINATION OF Au, Pt AND Pd IN VEGETATION ASHES AND WATERS BY ICP-MASS SPECTROMETRY

11:20 G. E. Brugmann, M. P. Gorton, R. G. V. Hancock: ANALYTICAL DETERMINATION OF AU AND PLATINUM GROUP ELEMENTS BY MEANS OF RADIOCHEMICAL NEUTRON ACTIVATION ANALYSIS.

LOW-TEMPERATURE

GEOCHEMISTRY, Maryland 4, J. S. Herman and H. E. Uzdowski, Chairmen

8:30 R. M. Price, J. S. Herman: GEOCHEMICAL INVESTIGATION OF SALT WATER INTRUSION IN A COASTAL CARBONATE AQUIFER: MALLORCA, SPAIN

8:50 J. S. Herman, K. J. Hoffer, M. M. Lora: CRITICAL SUPERSATURATION AND CALCITE PRECIPITATION RATES IN TRAVERTINE-DEPOSITING STREAMS

9:10 A. Kirchhoff, E. Uzdowski: EVOLUTION OF DISSOLVED ¹³C AND ¹²C DURING THE DISSOLUTION OF CALCITE AND DOLOMITE UNDER CLOSED SYSTEM CONDITIONS

9:30 D. Postma, R. Jacobsen: FORMATION AND SOLID SOLUTION BEHAVIOR OF CA-RHODOCHROSITES IN ANOXIC BALTIC SEDIMENTS

9:50 H. R. Westrich, W. H. Casey, G. W. Arnold: THE SURFACE CHEMISTRY OF DISSOLVING BYTOWNITE FELDSPAR

10:10 COFFEE

10:20 S. Nakashima, S. Ohki: INFRARED MICROSCOPY OF MINERALS AS A TOOL FOR ANALYZING WATER-ROCK INTERACTIONS

10:40 P. K. Aggarwal, W.-A. Chiou: KINETICS OF KAOLINITE PRECIPITATION AT 60° C and PH 6

11:00 T. Torgersen, H. Hiyagon, J. H. Reynolds, B. M. Kennedy, W. B. Clarke: ARGON ACCUMULATION AND THE CRUSTAL DEGASSING FLUX OF ⁴⁰AR IN THE GREAT ARTESIAN BASIN, AUSTRALIA

11:20 L. Yan, D. A. Crerar, R. M. Key, R. F. Stallard: REACTIONS OF RIVERINE SUSPENDED SOLIDS WITH LOW CONCENTRATIONS OF NaCl: PROCESSES DURING THE EARLY STAGE OF ESTUARINE MIXING

11:40 Y. Tardy, O. Touret: THERMODYNAMIC ACTIVITY OF WATER IN EARTH'S SURFACE REACTIONS

DIAGENESIS OF HUMIC

SUBSTANCES, Salon C + D, R. P. Philp and P. G. Hatcher, Chairmen

THURSDAY, MAY 12, 1988

8:30 E. C. Spiker, P. G. Hatcher, V. J. Comer: CHEMICAL AND CARBON ISOTOPIC CHANGES IN ORGANIC MATTER DURING EARLY DIAGENESIS

8:50 W. Orem: EARLY DIAGENESIS OF ORGANIC MATTER AND THE PRODUCTION OF DISSOLVED ORGANIC ACIDS IN PEATS OF THE OKEFENOKEE SWAMP

9:10 W. T. Cooper, C. A. Antworth, J. Happell, R. Yates, H. Collazo-Lopez: POLYMER CHARACTERISTICS AND DIAGENETIC ALTERATION OF HUMIC SUBSTANCES IN PEATS FROM THE FLORIDA EVERGLADES

9:30 T. C. Hoering: HYDROUS PYROLYSIS OF THE ORGANIC MATTER IN HOLOCENE SEDIMENTS

9:50 J. W. Farrington, M. McCaffrey, J. Sulanowski: EARLY DIAGENESIS OF LIPIDS IN A PROTOTYPICAL SOURCE ROCK DEPOSITIONAL ENVIRONMENT; SURFACE SEDIMENTS OFF PERU 15° S

10:10 COFFEE

10:40 R. L. Wershaw: HUMIC SUBSTANCES AS A SEPARATE PHASE IN SOIL AND WATER SYSTEMS

11:00 M. A. Wilson, A. M. Vassallo, J. M. Oades, A. G. Waters, G. P. Jones: INFLUENCE OF MANAGEMENT ON THE COMPOSITION OF ORGANIC MATTER IN A RED-BROWN EARTH AS SHOWN BY ¹³C-NUCLEAR MAGNETIC RESONANCE

11:20 L. Lopez, W. Melendez, J. L. Mogollon, C. Bifano, A. Rojas: CHARACTERIZATION OF HUMIC SUBSTANCES IN POLLUTED AND NON-POLLUTED STREAM SEDIMENTS

CRYSTAL CHEMISTRY, Salon E + F, Petr Cerny, Chairman

8:30 M. A. Wise, P. Cerny: MICROLITE CHEMISTRY IN RARE-ELEMENT PEGMATITES FROM THE YELLOWKNIFE PEGMATITE FIELD, NORTHWEST TERRITORIES

8:50 E. Murad, U. Schwertmann: THE IRON OXIDE MINERALOGY OF SOME DEEP-SEA MANGANESE NODULES

9:10 J. F. Banfield, D. R. Veblen: Fe-BEARING PLATELET DEFECTS IN METAMORPHIC RUTILE

9:30 P. B. Leavens, A. L. Rheingold, R. Dietrich: CRYSTAL STRUCTURE OF A UVITE-SCHORL TOURMALINE

9:50 D. R. Veblen, M. J. Wiechmann: DOMAIN STRUCTURES IN LOW-SYMMETRY VESUVIANITE

10:10 COFFEE

10:40 C. Durand, R. Szymanski, N. Lombardo: ANALYTICAL ELECTRON MICROSCOPY AS A COMPLEMENTARY TOOL TO INVESTIGATE CLAYS, AS MIXTURES OR MIXED CLAYERS

11:00 G. D. Guthrie, D. R. Veblen: SIMULATED HIGH-RESOLUTION TRANSMISSION ELECTRON MICROSCOPE IMAGES OF MIXED-LAYER ILLITE/SMECTITE CLAYS

11:20 J. Schott, C. Guy, D. Crerar : DOES THE BURGERS VECTOR CONTROL THE DISSOLUTION OF MINERALS?

11:40 P. J. Heaney, D. R. Veblen: A TEM STUDY OF MICROSTRUCTURES AND CRYSTALLOGRAPHIC VARIATIONS IN AGATES

COSMOGENIC RADIONUCLIDES

Hunt, D. Lai, Chairman

THURSDAY, MAY 12, 1988

8:30 H. E. Suess: V. M. GOLDSCHMIDT AND THE ORIGIN OF THE ELEMENTS

9:00 J. Klein: COSMOGENIC NUCLIDES: IMPACT ON EARTH AND PLANETARY SCIENCES

9:30 K. Marti: STUDIES OF COSMIC RAY PRODUCED NUCLIDES BY STATIC MASS SPECTROMETRY

9:50 D. Elmore: PERFORMANCE OF ACCELERATOR MASS SPECTROMETRY FOR MEASUREMENT OF COSMOGENIC ISOTOPES

10:10 COFFEE

10:40 P. E. Damon: A COMPARISON OF STATE-OF-THE-ART LOW LEVEL COUNTING TECHNIQUES WITH TANDEM ACCELERATOR MASS SPECTROMETRY

11:00 F. Yiou, G. M. Riasbeck: MEASUREMENTS OF ⁷Be/¹⁰Be BY ACCELERATOR MASS SPECTROMETRY AND THEIR ENVIRONMENTAL APPLICATIONS

11:20 J. Travis: RESONANCE IONIZATION MASS SPECTROMETRY FOR ULTRASENSITIVE DETERMINATION OF ISOTOPE RATIOS

11:40 N. Thonnard: DETECTION OF ⁸¹Kr AND ITS APPLICATIONS USING RESONANCE IONIZATION SPECTROSCOPY

THURSDAY PM

PALEOATMOSPHERES AND OCEANS, Maryland 1 + 2, J. C. G. Walker, Chairman

1:30 R. Kahn: OBSERVATIONAL CONSTRAINTS ON THE CLIMATE HISTORY OF MARS

1:50 J. C. Gerard, D. Delcourt, L. Francois: THE MAXIMUM ENTROPY DISSIPATION PRINCIPLE: APPLICATION TO THE PAINT YOUNG SUN PARADOX

2:10 E. C. Perry, Jr.: INTERPRETING THE ISOTOPIC COMPOSITION OF CHEMICAL SEDIMENTS: WAS THE ANCIENT OCEAN HOT OR COLD?

2:30 L. M. Francois, J. C. Gerard: OZONE, CLIMATE AND BIOSPHERIC ENVIRONMENT IN THE ANCIENT OXYGEN-POOR ATMOSPHERE OF THE EARTH

2:50 J. F. Kasting, K. J. Zahnle, J. P. Pinto, O. B. Toon, P. Hamill: SULFUR PHOTOCHEMISTRY IN THE EARTH'S EARLY ATMOSPHERE

3:10 COFFEE

3:30 A. C. Lasaga: O₂ THROUGH THE PHANEROZOIC - A NEW TREATMENT OF ISOTOPE MODELS

3:50 Y. Kolodny, B. Luz: RECONSTRUCTING DEPOSITIONAL AND DIAGENETIC ENVIRONMENTS BY ISOTOPIC ANALYSIS OF OXYGEN IN PHOSPHATE.

4:10 M. Kastner, R. E. Garrison, Y. Kolodny, A. Shemesh, C. E. Reimers: COUPLED CHANGES OF OXYGEN ISOTOPES IN PO₄⁻³ AND CO₃⁻² IN APATITE WITH EMPHASIS ON THE MONTEREY FORMATION, CALIFORNIA

4:30 S. M. Savin, F. Woodruff: MIOCENE THERMOHALINE CIRCULATION AND SPECULATION ON THE ORIGIN OF THE ANTARCTIC ICECAP

4:50 F. T. Manheim, C. M. Lane-Bostwick: PALEOCEANOGRAPHIC SIGNIFICANCE OF PACIFIC FERROMANGANESE CRUSTS

Schedule of Presentations

THURSDAY, MAY 12, 1988

THURSDAY PM

PLATINUM GROUP ELEMENTS II.

Maryland 3, G. Curtin and J. Scoates, Chairmen

- 1:30 A. Naldrett: VARIATIONS OF PGE IN CHROMITITES
- 1:50 A. Cocherie, T. Auge, G. Meyer: GEOCHEMISTRY OF THE PLATINUM-GROUP ELEMENTS IN VARIOUS TYPES OF SPINELS FROM THE VOURINOS OPHIOLITIC COMPLEX
- 2:10 A. D. Paktunc: PLATINUM-GROUP ELEMENTS ASSOCIATED WITH NICKEL-COPPER SULFIDE OCCURRENCES IN SOME MAFIC-ULTRAMAFIC INTRUSIONS OF THE APPALACHIAN OROGEN
- 2:30 M. L. Zientek, T. L. Fries, P. J. Lamothe, R. W. Vian: As, Bi, S, and Te GEOCHEMISTRY OF THE J-M REEF, STILLWATER COMPLEX, MONTANA
- 2:50 O. Eckstrand: SELENIUM IN MAGMATIC NICKEL AND PLATINUM DEPOSITS: INDICATOR OF SULPHUR SOURCE AND PLATINUM ENRICHMENT
- 3:10 COFFEE
- 3:40 B. Orberger, G. Friedrich, E. Woermann: PLATINUM-GROUP-ELEMENT REDISTRIBUTION IN ULTRAMAFICS OF THE ACOJE OPHIOLITE BLOCK BY HALOGEN-COMPLEXING?
- 4:00 G. Bacuta, R. W. Kay, A. K. Gibbs, B. R. Lipin: PLATINUM-GROUP ELEMENT (PGE) GEOCHEMISTRY IN CHROMITE DEPOSITS OF THE ACOJE OPHIOLITE BLOCK, ZAMBALES OPHIOLITE COMPLEX, PHILIPPINES
- 4:20 P. J. Lechler, L. C. Hsu: INTERPRETATION OF SOIL NITRITE-AMMONIUM RATIOS: A NEW PGE PROSPECTING TECHNIQUE
- 4:40 R. W. Cooper: Fe-Ni-Cu SULFIDE MINERALIZATION NEAR THE BASE OF THE STILLWATER COMPLEX, CHROME LAKE AREA, MONTANA

ENVIRONMENTAL GEOCHEMISTRY I.

Maryland 4, J. O. Nriagu, Chairman

- 1:30 I. Kaplan, K. Kawamura, H. Sakugawa, S. Steinberg: THE ROLE OF ORGANIC SUBSTANCES IN THE FORMATION AND CONTROL OF ACID RAIN
- 1:50 D. R. Van Stempvoort, P. Fritz: VARIATIONS IN THE ISOTOPIC COMPOSITION OF SULPHATE IN THE PLASTIC LAKE WATERSHED, DORSET, ONTARIO, CANADA
- 2:10 P. R. Buseck, J. R. Anderson, D. A. Saucy: CHEMISTRY OF INDIVIDUAL AIRBORNE PARTICLES FROM THE TROPOSPHERE OF URBAN AND REMOTE AREAS: AN OVERVIEW OF METHODS AND RESULTS
- 2:30 D. Schwartzman, L. Stieff, M. Kasim, E. Kombe, S. Aung, J. Johnson Jr.: LICHENS AS POTENTIAL QUANTITATIVE MONITORS OF AIRBORNE HEAVY METALS
- 2:50 Z. Szabo, O. S. Zapecza: RADIUM-226 AND URANIUM GEOCHEMISTRY IN GROUND WATER OF THE NEWARK BASIN, NEW JERSEY
- 3:10 COFFEE
- 3:30 B. Bolviken, R. T. Ottesen, T. Volden: REGIONAL VARIATIONS IN ACID SUSCEPTIBILITY OF SOILS
- 3:50 M. Kingston: APPLICATION OF DIFFUSE REFLECTANCE SPECTROSCOPY FOR MONITORING ACID RAIN DAMAGE TO BUILDING STONE

THURSDAY, MAY 12, 1988

4:10 R. Livingston: ELECTROLYTE MODEL FOR PARTITIONING THE EFFECT OF WET AND DRY ACID DEPOSITION ON CARBONATE STONE

- 4:30 M. Ross, E. S. McGee, D. R. Ross: CHEMICAL AND MINERALOGICAL EFFECTS OF ACID DEPOSITION ON LIMESTONE AND MARBLE SAMPLES PLACED AT FOUR NAPAP WEATHER MONITORING SITES
- 4:50 J. D. Grace: VARIATION IN RADON ACTIVITY FROM CEMENT BASEMENT FLOOR

DIAGENESIS OF HUMIC SUBSTANCES. Salon C + D, M. A. Wilson, Chairman

- 1:30 M. Vandenbroucke, F. Behar: STRUCTURAL RELATIONSHIP BETWEEN MOLECULAR MODELS OF SEDIMENTARY KEROGENS AND HUMIC ACIDS
- 2:00 S. T. Lu, I. Kaplan: HYDROCARBON GENERATING POTENTIAL BY PYROLYSIS OF DIFFERENT HUMIC COALS
- 2:20 S. A. Stout, J. J. Boon: ANALYTICAL PYROLYSIS STUDIES OF FOSSIL ANGIOSPERMOUS PLANT TISSUES FROM THE BRANDON LIGNITE, VERMONT
- 2:40 R. E. Botto, R. Hayatsu, K. A. Carrado, R. E. Winans: SOLID NMR OF NATURAL AND SYNTHETIC COAL MACERALS: A VIEW OF VITRINITE METAMORPHISM
- 3:00 COFFEE
- 3:30 J. W. Larsen: THE MACROMOLECULAR GEOCHEMISTRY OF THE COALIFICATION PROCESS
- 4:00 O. C. Kopp, M. L. McKinney, L. A. Harris: A MULTIVARIATE ANALYSIS OF COALIFICATION FACTORS
- 4:20 P. C. Lyons: COALIFICATION AND TECTONISM - NORTHERN APPALACHIAN BASIN

METAMORPHISM - METASOMATISM. Salon E + F, R. J. Tracy and J. K. Bohlke, Chairmen

- 1:30 G. E. Bebout, M. D. Barton: FLUID FLOW AND METASOMATISM IN A SUBDUCTION ZONE HYDROTHERMAL SYSTEM: CATALINA SCHIST TERRANE, CALIFORNIA
- 1:50 J. Hoefs, I. Strackenbrock, H. Ahrendt: ISOTOPE INVESTIGATIONS (C,O) OF LOWER CRUSTAL ROCKS FROM THE IVREA ZONE, ITALY: THE CALCITE-GRAPHITE THERMOMETER AND EVIDENCE FOR HETEROGENEOUS FLUID INTERACTIONS
- 2:10 S. R. Poulson, H. Ohmoto: DEVOLATILISATION EQUILIBRIA IN GRAPHITE-PYRITE-PYRRHOTITE BEARING PELITES, WITH RESPECT TO MAGMA-PELITE INTERACTION AND DEHYDRATION REACTIONS
- 2:30 R. J. Tracy, R. W. Sheets: H₂S-RICH FLUIDS IN HIGH-GRADE SULFIDIC SCHISTS: EVIDENCE FROM FLUID INCLUSIONS AND FROM FLUID CALCULATIONS BASED ON METAMORPHIC EQUILIBRIA
- 2:50 J. K. Bohlke: "DIVERGENT" METASOMATIC REACTIONS WITH A "COMMON" FLUID
- 3:10 P. B. Leavens: PROTORE AND METAMORPHISM OF THE FRANKLIN AND STERLING HILL (NEW JERSEY) Zn-Fe-Mn ORE DEPOSITS

THURSDAY, MAY 12, 1988

COSMOGENIC RADIONUCLIDES.

Hunt, J. Klein, Chairman

- 1:30 K. O'Brien, A. De La Zerda Lerner: PRODUCTION RATES AND INVENTORIES OF COSMOGENIC ISOTOPES FORMED IN THE EARTH'S ATMOSPHERE
- 1:50 J. M. Edmond: THE GEOCHEMICAL CYCLE OF ⁹Be
- 2:10 P. E. Damon, S. Cheng: GEOMAGNETIC MODULATION OF COSMOGENIC ¹⁴C PRODUCTION: A COMPONENT OF THE GEOMAGNETIC FIELD WITH 2,400 YEAR PERIOD
- 2:30 F. M. Phillips: APPLICATIONS OF ³⁶Cl AND ¹²⁹I TO HYDROLOGY
- 2:50 C. Purdy, A. C. Mignerey, G. R. Helz, P. W. Kubik, D. Elmore, D. D. Drummond: Cl-36: A TRACER IN GROUNDWATER IN THE AQUIA FORMATION OF SOUTHERN MARYLAND
- 3:10 COFFEE
- 3:40 N. Valette-Silver, F. Tera, M. Pavich, J. Klein, R. Middleton: ¹⁰Be IN HYDROTHERMAL SYSTEMS AND NATURAL WATERS
- 4:00 M. J. Pavich: ¹⁰Be IN SAPROLITE AND SOIL
- 4:20 W. R. Osterkamp: BERYLLIUM-10 AS A NATURAL TRACER OF WATER MOVEMENT IN THE UNSATURATED ZONE, SOUTHERN HIGH PLAINS OF TEXAS
- 4:40 C. R. Olsen, B. L. Kimmel, I. L. Larsen, D. K. Solomon, O. F. Hoffmann: BERYLLIUM-7: NEW TRACER APPLICATIONS IN AQUATIC AND TERRESTRIAL SYSTEMS

FRIDAY, MAY 13, 1988

FRIDAY AM

11TH SYMPOSIUM ON GEOCHEMICAL CYCLES. Maryland 1 + 2, B. Gregor, Chairman

- 8:30 R. M. Garrels: PRECAMBRIAN GEOCHEMISTRY
- 9:00 R. Siever: EVOLUTION OF THE SILICA CYCLE
- 9:30 D. E. Canfield: RATES OF SULFATE REDUCTION AND OXIC RESPIRATION IN MARINE SEDIMENTS: IMPLICATIONS FOR ORGANIC CARBON PRESERVATION IN EUXINIC ENVIRONMENTS
- 10:00 COFFEE
- 10:30 H. D. Holland, N. Das, A. Weinberg: THE EVOLUTION OF SEAWATER DURING THE PHANEROZOIC
- 11:00 B. N. Popp, M. W. Johnson, R. Takigiku, J. M. Hayes, E. W. Baker: THE POST-PALEOZOIC CHRONOLOGY AND MECHANISM OF CARBON-13 DEPLETION IN PRIMARY MARINE ORGANIC MATTER
- 11:30 J. M. Hill, R. Conkwright, Jr.: BIOGEOCHEMICAL SEDIMENTARY RESERVOIRS OF CHESAPEAKE BAY
- MINERAL DEPOSITS. Maryland 3, J. Stephen Huebner, Chairman
- 8:30 Y. Zheng, Z. Zhang, W. Shen: PHYSIOCHEMICAL CONDITION OF MINERALIZING FORMATION IN THE NO. 6217 URANIUM DEPOSIT AND SIGNIFICANCE OF THE REDIZATION

FRIDAY, MAY 13, 1988

FRIDAY AM

8:50 M. Duane, C. W. Clendenin: CONTINENTAL COLLISION AND FOCUSED FLUID FLOW: A SCENARIO FOR FORMING GIANT OREBODIES

9:10 A. W. Rose, C. A. Kuehn, D. S. Shenberger, C. H. Gammons: GEOCHEMISTRY AND ORIGIN OF HYDROTHERMAL FLUIDS FORMING HIGH Au/Ag, LOW BASE-METAL GOLD DEPOSITS OF CARLIN, GREENSTONE AND RELATED TYPES

9:30 E. E. Foord, H. V. Alminas, R. E. Tucker: TIN, GOLD, AND BASE-METAL MINERALIZATION IN THE U.S. VIRGIN ISLANDS

9:50 X. Song: GEOCHEMISTRY OF TRACE ELEMENTS OF SPHALERITES FROM CARBONATE-HOSTED Pb-Zn DEPOSITS IN CHINA

10:10 COFFEE

10:40 N. E. Fegan, D. T. Long, W. B. Lyons, M. E. Hines, R. Lent: TRACE METAL ENRICHMENTS IN SABKHA-LIKE ENVIRONMENTS

11:00 M. Tole: DEPOSITION OF METALS FROM THE JOMBO HILL GEOTHERMAL FIELD, COAST PROVINCE, KENYA

11:20 J. S. Huebner, M. J. K. Flohr: CHEMISTRY AND ORIGIN OF MN FORMATION IN THE FRANCISCAN COMPLEX, CA

11:40 S. Yasuhiro: IMPORTANCE OF TUNGSTATE SPECIES FOR THE TRANSPORT OF TUNGSTEN IN HYDROTHERMAL SOLUTION: CASE STUDIES ON MAJOR JAPANESE TUNGSTEN DEPOSITS

ENVIRONMENTAL GEOCHEMISTRY, IL Maryland 4, J. F. Barker, Chairman

8:30 B. Bolviken, R. T. Ottesen: REGIONAL GEOCHEMICAL MAPS: A BASIC TOOL IN ENVIRONMENTAL RESEARCH

8:50 J. L. Mogollón, B. García, C. Bifano: EVALUATION OF METAL CONTAMINANTS OF SOIL FROM GUACARA AREA (VENEZUELA)

9:10 R. J. Kieber, G. R. Helz: PHOTOCHEMICALLY DRIVEN REDOX CYCLING OF CHROMIUM AT A CONTAMINATED NATURAL WATER SITE AND ITS ENVIRONMENTAL IMPLICATIONS

9:30 D. B. Hawkins: ENVIRONMENTAL GEOCHEMISTRY OF ARSENIC IN THE FAIRBANKS, ALASKA AREA

9:50 J. A. Davis, C. C. Fuller, R. G. Claypool-Frey: KINETICS OF TRACE ELEMENT SORPTION AND SURFACE REORGANIZATION PROCESSES AT MINERAL-WATER INTERFACES

10:10 COFFEE

10:40 A. T. Stone, J. S. LaKind, H.-J. Ulrich: REDOX REACTIONS INFLUENCING THE GEOCHEMISTRY OF MANGANESE, IRON, AND COBALT

11:00 A. White: OXIDATION-REDUCTION REACTIONS AT THE AQUEOUS-SOLID INTERFACE OF IRON AND TITANIUM OXIDES

11:20 M. Machesky, P. Jacobs: CALORIMETRIC ACID-BASE TITRATIONS OF AQUEOUS ALUMINA SUSPENSIONS

11:40 S. Nakashima, H. Kita: DIFFUSION AND FIXATION OF A MOBILE RADIONUCLIDE IN SEDIMENTS

ORGANIC GEOCHEMISTRY, Salon C + D, P. G. Hatcher, Chairman

FRIDAY, MAY 13, 1988

8:30 R. P. Philp, J.-N. Oung, C. A. Lewis: ADVANCES IN MASS SPECTROMETRIC TECHNIQUES APPLIED TO PETROLEUM GEOCHEMISTRY

9:00 S. C. Brassell: BIOLOGICAL MARKERS AS ENVIRONMENTAL INDICATORS: RECENT SEDIMENTS AS A KEY TO PRECURSOR/PRODUCT RELATIONSHIPS AND DIAGENETIC PATHWAYS

9:30 R. M. K. Carlson, J. M. Moldowan, L. W. Sims, S. R. Jacobson, M. N. Bass, D. R. Boomer: HIGH PRESSURE-FLOW THROUGH EXTRACTION OF WHOLE GEOLOGIC CORES: A NEW METHOD FOR PROBING ORGANIC GEOCHEMICAL HETEROGENEITY IN RESERVOIR AND SOURCE ROCK SAMPLES

9:50 G. J. Van Berkel, G. L. Gilsh, S. A. McLuckey: NEW MASS SPECTROMETRIC APPROACHES TO GEOPORPHYRIN ANALYSIS

10:10 COFFEE

10:40 P. Sundararaman: VANADYLPORPHYRINS, INDICATORS OF KEROGEN BREAKDOWN AND GENERATION OF PETROLEUM

11:00 M. A. Kruege, J. E. Crockett, D. F. Oltz: PETROLEUM SOURCE ROCK CHARACTERIZATION OF THE UPPER ORDOVICIAN MAQUOKETA GROUP, WEST CENTRAL ILLINOIS

11:20 I. Kaplan: ROLE OF MINERALS IN GENERATION AND RELEASE OF OIL AND GAS FROM SHALE DERIVED KEROGEN

MANTLE MINERALOGY AND PETROLOGY, I, Salon E + F, D. Egger, Chairman

8:30 W. P. Leeman: SUBCONTINENTAL LITHOSPHERIC MANTLE KEEL: CHARACTERISTICS, DISTRIBUTION, AND INVOLVEMENT AS A MAGMA SOURCE BENEATH THE WESTERN U.S.

8:50 M. F. Roden, N. Shimizu: VERY DEPLETED CONTINENTAL LITHOSPHERE BENEATH THE COLORADO PLATEAU

9:10 R. D. Harmer, S. Talma: ISOTOPE GEOCHEMISTRY OF MID-PROTEROZOIC CARBONATITE COMPLEXES FROM SOUTH AFRICA: IMPLICATIONS FOR THE COMPOSITION OF THE PROTEROZOIC SUBCONTINENTAL MANTLE

9:30 J. Blusztajn, N. Shimizu: THE TRACE ELEMENT VARIATIONS IN CLINOPYROXENES FROM SPINEL PERIDOTITE XENOLITHS FROM SW POLAND

9:50 J. Blusztajn, S. R. Hart: Sr, Nd and Pb ISOTOPIC CHARACTER OF TERTIARY BASALTS FROM SOUTHWEST POLAND

10:10 COFFEE

10:20 G. Witt, H. Seck: TWO STAGE MANTLE METASOMATISM IN SPINEL-PERIDOTITES FROM THE SUBCRUSTAL LITHOSPHERE BENEATH THE WEST EIFEL

10:40 N. Shimizu, J. J. Gurney, R. O. Moore: TRACE ELEMENT ABUNDANCE PATTERNS OF GARNET INCLUSIONS IN DIAMONDS

11:00 R. W. Lykins, D. M. Jenkins: EXPERIMENTAL STUDY OF PARGASITE-ORTHOPYROXENE PARTIAL MELTING REACTIONS

11:20 D. Canil, C. Scarfe, K. Ozawa: PHLOGOPITE IN MANTLE XENOLITHS FROM THE KOSTAL LAKE VOLCANIC CENTER, WELLS GRAY PARK, BRITISH COLUMBIA

FRIDAY, MAY 13, 1988

11:40 H. O. A. Meyer: MANTLE METASOMATISM OF XENOLITHS FROM KIMBERLITE IN MINAS GERAIS, BRAZIL

COSMOGENIC RADIONUCLIDES

Hunt, G. Raisbeck, Chairman

8:30 J. Beer: Be-10 IN POLAR ICE: STATUS OF THE ART

8:50 P. W. Kubik, D. Elmore, H. E. Gove, N. Conard: ³⁶Cl DEPTH PROFILE IN THE 1966 CAMP CENTURY DEEP ICE CORE COVERING THE WOLF, THE SPOERER, AND THE MAUNDER SUNSPOT MINIMA PERIODS

9:10 W. S. Broecker: IMPLICATIONS TO CLIMATE THEORY OF THE RADIOCARBON CHRONOLOGY OF THE LAST DEGLACIATION

9:30 D. Lal: COSMOGENIC TRACERS IN THE OCEANS: APPLICATIONS TO NUTRIENT CYCLES AND LARGE SCALE CIRCULATION

9:50 T.-L. Ku: MARINE GEOCHRONOLOGY WITH BERYLLIUM-10

10:10 COFFEE

10:40 S. Amari, M. Ozima: EXTRATERRESTRIAL ORIGIN NOBLE GASES IN SEDIMENTARY ENVIRONMENTS

11:00 G. M. Raisbeck, F. You, D. Bourlés: APPLICATIONS OF ¹⁰Be MEASUREMENTS IN MARINE SEDIMENTS

11:20 P. Sharma, R. Middleton, J. Klein: RADIOGENIC PRODUCTION OF ¹⁰Be and ²⁶Al IN URANIUM AND THORIUM ORES: IMPLICATIONS FOR STUDYING TERRESTRIAL SAMPLES CONTAINING LOW LEVELS OF ¹⁰Be and ²⁶Al

FRIDAY PM

11TH SYMPOSIUM ON GEOCHEMICAL CYCLES, Maryland 1 + 2, B. Gregor, Chairman

1:30 L. Yan, R. M. Key, R. F. Stallard: THE ROLE OF ESTUARIES IN THE GEOCHEMICAL CYCLE: A STUDY OF SELECTED METALS AND ORGANIC CARBON IN NEW JERSEY ESTUARIES

2:00 Y. Suzuki, E. Tanoue, Y. Sugimura: NEW ASSUMPTION ON THE MARINE GEOCHEMICAL CYCLE OF CARBON AND NITROGEN

2:30 Y. Tardy, R. N'Koukou, J.-L. Probst: THE GLOBAL WATER CYCLES DURING THE LAST 500 M.Y.

3:00 COFFEE

3:30 L. R. Kump, E. J. Barron: COUPLED MODELS OF GEOCHEMICAL CYCLES AND CLIMATE

4:00 G. P. Landis, R. A. Berner: THE COMPOSITION OF ANCIENT AIR: ANALYSIS OF GAS BUBBLE INCLUSIONS IN FOSSIL AMBER

HYDROTHERMAL SOLUTION CHEMISTRY, Maryland 3, S. A. Wood, Chairman

1:30 S. A. Wood, D. Vlassopoulos: THE HYDROTHERMAL SOLUBILITY OF TUNGSTEN OXIDES AT 500° C AND 1 KBAR IN HCl, NaCl, NaOH AND PURE WATER SOLUTIONS

1:50 P. Kranidiotis, S. A. Wood: THE SOLUBILITY OF Cu-Cu₂O IN HYDROTHERMAL CHLORIDE SOLUTIONS FROM 150 TO 250° C

2:10 S. A. Wood, A. Mucci: THE SOLUBILITY OF PLATINUM AS BISULFIDE AND HYDROXIDE COMPLEXES AT 25° C

Schedule of Presentations

FRIDAY, MAY 13, 1988

FRIDAY PM

HYDROTHERMAL SOLUTION

CHEMISTRY, Maryland 3,
S. A. Wood, Chairman

2:30 D. Vlassopoulos, S. A. Wood, A. Mucci: THE SOLUBILITY & SPECIATION OF GOLD IN AQUEOUS SOLUTIONS CONTAINING ORGANIC LIGANDS AT 25°C

2:50 I-M. Chou: THE EFFECT OF Au-Ag ALLOYING ON THE Ag-AgCl BUFFER

3:10 COFFEE

3:40 C. H. Gammons, D. S. Shenberger, H. L. Barnes: ROLE OF ELECTRUM IN THE HYDROTHERMAL TRANSPORT AND DEPOSITION OF GOLD AND SILVER

4:00 M. M. Yang, D. A. Crerar, D. E. Irish: RAMAN SPECTROSCOPIC STUDIES OF HYDROTHERMAL SOLUTIONS

4:20 S. Nakashima, J-R. Disnar: KINETICS OF U DEPOSITION BY ORGANIC MATTER UNDER HYDROTHERMAL OR DIAGENETIC CONDITIONS

4:40 R. Hellmann, D. A. Crerar, R. Zhang: DISSOLUTION STOICHIOMETRY OF ALBITE DISSOLVING UNDER HYDROTHERMAL CONDITIONS

ENVIRONMENTAL GEOCHEMISTRY
III, Maryland 4, J. O. Nriagu, Chairman

1:30 W. T. Cooper, C. A. Antworth, R. R. Yates, H. Collazo-Lopez: INTERACTIONS OF POLAR ORGANIC SOLUTES WITH SOIL ORGANIC MATTER

1:50 J. F. Barker: THE BIODEGRADATION OF MONOAROMATIC HYDROCARBONS IN GROUND WATERS: A COMPARISON OF LABORATORY AND FIELD OBSERVATIONS

2:10 A. J. Ramirez, A. W. Rose: HUMAN INFLUENCE ON THE FLUVIAL TRANSPORT OF TOTAL ORGANIC CARBON, NITROGEN AND PHOSPHORUS

2:30 M. Magaritz, D. Ronen: ON THE SCALE OF CHEMICAL HETEROGENEITY OF GROUNDWATER

2:50 J. L. Rao, Y. Li: HYDROGEOCHEMICAL CHARACTERISTICS OF A SMALL WATERSHED IN SOUTHERN CHINA

3:10 COFFEE

3:40 W. C. Isphording, G. C. Flowers: MAN-INDUCED DISSOLUTION OF SILICICLASTIC SEDIMENTS BY STRONG ALKALI ATTACK

FRIDAY, MAY 13, 1988

4:00 J. Wang, G. C. Ulmer, D. E. Grandstaff, J. J. Friel: BASALTIC RESIDIUM GLASSES: AN OLD AND A NEW PROBLEM

4:20 B. Bolviken, R. Nilsen, R. T. Ottesen: COMPARISON OF GEOCHEMICAL AND EPIDEMIOLOGICAL DATA IN NORWAY

4:40 J. O. Nriagu: THE SILENT EPIDEMIC: ENVIRONMENTAL METAL POISONING

ORGANIC GEOCHEMISTRY, II,
Salon C + D, R. P. Philp, Chairman

1:30 C. L. Thompson-Rizer: AMORPHOUS KEROGENS

1:50 P. R. Buseck, B-J. Huang, B. Miner: STRUCTURAL VARIATIONS IN PRECAMBRIAN KEROGEN AS SEEN BY TRANSMISSION ELECTRON MICROSCOPY

2:10 P. Gerling, E. Faber, W. Stahl: GENETIC CHARACTER OF SHALLOW GASES AND THEIR RELATIONSHIPS TO DEEP RESERVOIR GASES AND SOURCE ROCKS

2:30 A. Jeffrey, I. Kaplan, R. Poreda, H. Craig: THE ORIGIN OF NATURAL GASES FROM CONVERGENT PLATE MARGINS

2:50 P. Shen, Y. Xu: STUDY ON THE STABLE ISOTOPIC COMPOSITION OF THE GASEOUS HYDROCARBON FROM TERRESTRIAL ENVIRONMENTS IN CHINA

3:10 L. M. Wenger, R. P. Philp, D. R. Baker: DELINEATION OF ORGANIC MATTER SOURCE IN PENNSYLVANIAN-AGED SEDIMENTS OF OKLAHOMA AND KANSAS USING PYROLYSIS-GAS CHROMATOGRAPHY AND BIOMARKER DISTRIBUTIONS

3:30 J. B. Roen: KEROGEN IN DEVONIAN-MISSISSIPPIAN BLACK SHALES, APPALACHIAN BASIN

MANTLE MINERALOGY AND PETROLOGY, II, Salon E + F,
D. Egger, Chairman

1:30 V. J. M. Salters, N. Shimizu: HFSE DEPLETIONS IN PERIDOTITES, LOCAL VARIATIONS AND A POSSIBLE ORIGIN

1:50 J. K. Meen: MINERAL ASSEMBLAGES IN VEINS FORMED BY IOLITE-PERIDOTITE REACTION. IMPLICATIONS FOR MELTING OF SCUM

FRIDAY, MAY 13, 1988

2:10 J. D. Pasteris, B. J. Wanamaker: ANALYSIS OF EXPERIMENTALLY RE-EQUILIBRATED FLUID INCLUSIONS IN MANTLE OLIVINE BY LASER RAMAN MICROPROBE AND MICROTHERMOMETRY

2:30 J. M. Brenan, E. B. Watson: WETTING PROPERTIES OF POSSIBLE MANTLE METASOMATIC FLUIDS

2:50 T. Mori: FAST AND DELAYED CHEMICAL REACTIONS IN THE GARNET LHERZOLITE MINERALOGY - AN EXPERIMENTAL STUDY

3:10 COFFEE

3:40 J. Ayers, D. H. Egger: PARTITIONING OF TRACE ELEMENTS BETWEEN SILICATE MELTS AND H₂O-NaCl FLUIDS AT UPPER MANTLE PRESSURES AND TEMPERATURES

4:00 D. Elthon, N. Shimizu, J. F. Casey, S. C. Komor: ION PROBE ANALYSES OF CLINOPYROXENES FROM CUMULATE ROCKS OF THE BAY OF ISLANDS OPHIOLITE: EVIDENCE FOR VERY DEPLETED PRIMARY MAGMAS

4:20 C. M. Scarfe, E. Takahashi: MELTING OF PERIDOTITE TO 25 GPa WITH COMMENTS ON THE EARLY HISTORY OF THE MANTLE

4:40 E. Takahashi: COMPOSITIONAL HETEROGENEITY IN BASALT MAGMA SOURCE REGIONS IN THE UPPER MANTLE

COSMOGENIC RADIONUCLIDES, Hunt,
G. Herzog, Chairman

1:30 G. F. Herzog: SPHERULES, TEKTTITES, AND MARTIAN METEORITES

1:50 K. Nishiizumi: COSMOGENIC NUCLIDES IN LUNAR AND METEORITIC SAMPLES

2:10 D. M. Shaw, M. D. Higgins, M. G. Truscott, T. A. Middleton: BORON IN CHONDRITIC METEORITES

2:30 J. Morris, F. Tera: SEDIMENT RECYCLING IN VOLCANIC ARCS: EVIDENCE FROM ¹⁰Be AND ¹⁰Be/⁹Be RATIOS IN ARC LAVAS

2:50 M. C. Monaghan: THE ORIGIN OF ¹⁰Be IN ISLAND-ARC VOLCANICS

3:10 M. D. Kurz, D. Colodner, T. W. Trull, D. E. Sampson: EXPOSURE AGE DATING WITH COSMOGENIC ³He

3:30 D. Lal: SUMMARY AND CONCLUSIONS

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