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UNESCO - IAGC

Dr. F. Ronner (UNESCO) reported to IAGC at the 1972 Council meeting that UNESCO is eager to strengthen geochemistry; however, the availability of funds to IAGC would depend to a large extent on the presentation of clear and elaborate proposals. UNESCO would like to have an outline of IAGC programs and proposed meetings for two years in advance in order to evaluate the granting of financial support. Dr. Ronner did mention some areas of IAGC interest which probably would receive UNESCO support. These are: atmospheric geochemistry, hydrogeochemistry, and geochemistry of the earth's interior.

WORKING GROUP ON ISOTOPE GEOCHEMISTRY

A meeting of the Working Group was held at Montreal, Canada in August 1972. On the basis of suggestions made by the members present, it was decided to undertake the following programs: (1) compilation of a directory of isotope geochemists throughout the world in order to know who is using what isotopes for which purpose; (2) evaluate the present world situation regarding use and availability of isotope standards, (3) maintain liason with other international groups that have interest in isotope geochemistry, and (4) keep IAGC members informed of the activities of the Working Group. Concerning program #1, above, questionnaires have been sent to 400 persons or groups throughout the world, all major countries except China being contacted. Replies are now coming back to the Secretary of the Working Group. Tentative plans call for the printing of a directory of groups or laboratories which are engaged in isotope research.

With regard to isotope standards, the following are available from: Office of Standard Reference Materials, Room B-311, Chemistry Bldg., National Bureau of Standards, Washington, D.C. 20234, U.S.A. Telephone: 301-921-2045.

1. Uranium: Uranium metal SRM 960; Uranium oxide (U_3O_8)-SRM 950a; Uranium isotopic standards- U-002, U-005, U-010, U-015, U-020, U-030, U-050, U-100, U-150, U-200, U-350, U-500, U-750, U-800, U-900, U-930, U-970.

2. Plutonium: Plutonium sulphate tetrahydrate-SRM 944; Plutonium metal-standard matrix material-SRM 945; Plutonium isotopic standards-SRM 946, 947, 948; Plutonium metal-SRM 949d.

3. Strontium: Strontium carbonate-SRM 987; Sr^{84} spike assay and isotopic solution standard-SRM 988.

4. Rubidium: Rubidium chloride-SRM 984.

5. Lead: Common lead isotopic standard-SRM 981; Equal atom lead isotopic standard-SRM 982; Radiogenic lead isotopic standard-SRM 983.

6. Potassium feldspar, trace Rb and Sr-SRM 607.

7. Isotopic standards for: Boron (boric acid)-SRM 951, 952; Bromine-SRM 977; Chlorine-SRM 975; Chromium-SRM 979; Copper-SRM 976; Magnesium-SRM 980; Silver-SRM 978.

In addition to the above, the National Bureau of Standards has a series of trace elements in glass standrads (SRM 608-619).

A glauconite standard for geochronological work (8% K_2O; age = 85 my) is available from: Centre de Recherches Petrographiques et Geochimiques, Case Officielle no. 1, 54500 Nancy-les-Vandervre, France. Telephone: 28-53-79-13.

The Geological Survey of Japan and the Ocean Research Institute (Tokyo) are planning to have a new sulphur isotopic standard ($BaSO_4$ precipitated from sea water). Details are not yet available.

The Working Group is chaired by Professor M. Fornaseri, Institute of Geochemistry, University of Rome, Rome, 00100, Italy. The secretary is Professor U. Aswathanarayana, Centre of Advanced Study in Geology, University of Saugar, Sagar, M. P., 470-003, India. Other current members are: Drs. S. Epstein (USA), J. Weber (USA), P. Fritz (Canada), E. I. Dontsova (USSR), J. C. Fontes (France), D. Lal (India), S. Moorbath (UK), W. Compston (Australia), and A. Sasaki (Japan).

COMMISSION ON EXTRATERRESTRIAL CHEMISTRY

The Commission serves to promote interaction between geochemists, atmospheric scientists, astrophysicists, and physicists. The unifying theme of this interaction is the abundance distribution of the elements throughout the universe, and the implications of variations in these for cosmophysical and cosmochemical processes. The principal mechanisms which have been adopted for promoting interdisciplinary activities are the preparation of review articles and the holding of symposia.

The problem of review has resulted in the recent publication of the Handbook of Elemental Abundances in Meteorites, edited by Dr. Biran Mason (USA) and made available

to IAGC members at a reduced cost. About 20 different authors participated in this compilation, and there resulted a separate chapter for nearly every different element. Other reviews have been planned, but as yet, none is approaching the publication stage.

The Commission organized a symposium on cosmochemistry which was held in August 1972 in Cambridge, Massachusetts, USA (see additional details below). This symposium included some 15 invited review talks on various aspects of cosmochemistry which extended across the entire cosmochemical field. In addition, a number of contributed papers were read. This meeting was a successor to the one previously held in Paris which represented the first meeting of IAGC.

The affairs of the Commission are guided by an executive committee, chaired by Dr. A. G. W. Cameron (USA). Other members include: J. M. Greenberg (USA), D. L. Lambert (USA), J. F. Lovering (Australia), B. Mason (USA), T. C. Owen (USA), P. B. Price (USA), and F. Whipple (USA).

PROCEEDINGS OF THE CAMBRIDGE COSMOCHEMISTRY SYMPOSIUM

IAGC, through its Commission on Extraterrestrial Chemistry, sponsored a cosmochemistry symposium in August 1972 which was held at Cambridge, Massachusetts. The Commission has arranged with D. Reidel Publishing Company (Dordrecht, Holland) for the publication of the proceedings. Although the exact price has not yet been established, the proceedings will be available to IAGC members at a reduced rate. A list of IAGC members has already been given to the D. Reidel Company; members will receive publication notice directly from the company.

PROCEEDINGS OF THE KIEV, USSR SYMPOSIUM GENESIS OF PRECAMBRIAN IRON AND MANGANESE DEPOSITS

The symposium was held on August 20-25, 1970, in Kiev, USSR. The proceedings have recently been published by UNESCO as No. 9 in the UNESCO Earth Science Series, identifying number ISBN 92-3-001107-X. The volume is paper bound and contains 382 pages (21 x 28 cm in size). The price is $32 (USA). No reduced price for IAGC members has yet been announced. Copies can be ordered from: UNESCO Publication Center, P. O. Box 433, New York, New York 10017, USA.

PROCEEDINGS OF THE SYMPOSIUM ON HYDROGEOCHEMISTRY AND BIOGEOCHEMISTRY

The symposium was held in Tokyo in 1970 and was organized by the Science Council of Japan and IAGC. Volume I (662 pages) of the proceedings deals with hydrogeochemistry; Volume II (613 pages) with biogeochemistry. Both volumes are available to IGAC members at the reduced price of $10.00 USA each. Remittance should be sent to The Clark Company, 1054 31st Street NW, Washington, D.C. 20007, USA.

SYMPOSIUM ON MAN'S EFFECT ON THE CARBON CYCLE

The IAGC Commission of Organic Geochemistry is in the process of organizing a symposium on the above indicated subject. Originally, the symposium was planned for July 1974, as indicated in the October 1973 issue of the IAGC NEWSLETTER. Plans have changed and the Commission is now hoping to include the sumposium with the Second Symposium on Environmental Biogeochemistry to be held at the Canada Centre for Inland Waters in Burlington, Ontario, Canada in the spring of 1975. At present, Dr. K. A. Kvenvolden (of IAGC) and Dr. Jerome Nriagu (of the Centre) are constructing a program. They hope to have ~~IAGC~~ support for the symposium.
Unesco (IAGC is already supporting it)

INTERNATIONAL SYMPOSIUM ON WATER-ROCK INTERACTION PRAGUE, CZECHOLSOVAKIA

This symposium is scheduled for September 9-13, 1974, and will be followed by a field trip to the Bohemian massif on September 14-19, 1974. The symposium fee is 100 Swiss francs; the field trip is 300. The original sponsors of the meeting are the Geological Survey of Prague and IAGC; however, assurances have just been received that UNESCO will be a sponsor and will lend financial support. The first information circular has already been issued; a second will be ready for mailing in Spring, 1974.

By early December 1973, 133 persons from the following countries had indicated an intention to attend: Australia (1), Belgium (1), Bulgaria (1), Canada (8), Czechoslovakia (21), England (6), France (1), Hungary (1), Iceland (1), India (1), Iraq (1), Italy (4), Japan (9), Kenya (1), Netherlands (5), New Zealand (1), Poland (2), Sweden (3), USA (34), USSR (20, but about 50 are expected). A total of 66 abstracts has already been received. Topics to be covered include: distinguishing waters of different origin, low temperature water-rock interactions, computer modeling, geothermal systems, and water-rock interactions in magmatic and metamorphic environments.

Rooms for approximately 200 participants have been reserved. Although the original deadline for lodging applications was December 1, 1973, applications are still being accepted. Because of the limited space in Prague in September, those planning to attend are urged to apply for rooms now.

Additional information (including the first information circular) is available from Dr. Tomas Paces, Geological Survey of Prague, Malostranke nam. 19, 11821 Praha, Czechoslovakia.

6th INTERNATIONAL CONGRESS ON ORGANIC GEOCHEMISTRY PARIS, SEPTEMBER 18-21, 1973

The organizing committee for the Congress comprised B. Tissot (President), F. Bienner (Secretary), A. Combaz, J. J. Firpiat, J. Goni (IAGC representative), and G. Ourisson. Approximately 300 persons attended, the following countries being represented: Australia, Belgium, Bulgaria, Canada, England, France, Germany, Hungary, Iran, Israel, Japan, Netherlands, Poland, Spain, United Arab Republic, USA, and USSR. In addition to Dr. Goni (France), IAGC was represented by Professor V. V. Shcherbina (USSR).

A total of 74 papers was read in the eight technical sessions (or sections).

Section 1: Organic Geochemistry of Humic Substances and Kerogens. Chairman, D. Welte (Germany) - 13 papers.

Section 2: Steroids and Terpinoids from Geological Sources. Chairman, G. Ourisson (France) - 2 papers.

Section 3: Origin of Oil, Gas and Coal in Sedimentary Basins. Chairman, V. V. Shcherbina (USSR) sitting for N.B. Vassoevich (USSR) who could not be present - 22 papers.

Section 4: Organic Geochemistry of Oceans and Other Natural Waters. Chairman, J. M. Hunt (USA) - 10 papers.

Section 5: Sulfur in Fossil Fuels and Sediments. Chairman, M. Bestougeff - 8 papers.

Section 6: Organic-Inorganic Interactions: Chairman, J. Goni (France) - 8 papers.

Section 7: Proteins, Purins and Pyramidines. Chairman, G. Ourisson (France) - 3 papers.

Section 8: Environmental Geochemistry: Chairman, G. Eglinton (United Kingdom) - 8 papers.

Dr. Tissot has informed IAGC that the proceedings will be published by: Editions Technip, 27 rue Ginoux, 75015 Paris, France. They should be available about the middle of 1974.

The location for the next (7th) Congress has not yet been picked; however, it will probably he held in Barcelona, Spain or Moscow, USSR.

BOOK REVIEW

Tellurium edited by W. Charles Cooper, 1973, Van Nostrand Reinhold Co., New York, 437 p., $22.50 USA. Reveiwed by H. W. Lakin, U. S. Geol. Survey, Exploration Research, Denver, Colorado, USA.

This general survey of the science and technology of tellurium is valuable as an introduction to the literature on the element. In 11 chapters this book presents the history, occurrence, and recovery of tellurium, the physical properites of the element, the inorganic, organic, and analytical chemistry of tellurium and its toxicology, and in the last four chapters describes the uses and potential uses of tellurium.

The quality of the various chapters varies markedly. To illustrate, the introductory chapter on the history and occurrence of tellurium omits recent data on mineralogy and any discussion of geochemistry except for commercially available occurrences. The chapter contains only 12½ pages, 6½ of which are tables reprinted from Sindeeva's Mineralogy and Types of Deposits of Selenium and Tellurium (1964). The author uses seven references, the most recent being 1965. In contrast, the three chapters on the physical and chemical properties of tellurium are comprehensive and well documented. The chapter on physical properties gives 199 references, 24 of which are in 1969-70 (there are only four additional references in the entire book more recent than 1968): inorganic chemistry is covered with 772 references, and organic chemistry with 261.

The chapter on analytical chemistry covers the literature with selected references through 1968 and deals primarily with the analysis of materials enriched in tellurium. The author makes no comment on the inadequate sensitivity of the analytical methods he discusses for the determination of tellurium in rocks, silis, and biological materials. Lack of coverage for post-1968 advances in the analytical chemistry of tellurium detracts from the value of this chapter, but it is definitely a useful survey of procedures.

The chapter on the toxicology of tellurium gives one the impression that much toolittle is known on the subject, but the annotation for a toxicology book listed in the chapter's references suggests that fuller treatment could have been given the subject. Describing the obnoxious odor of dimethyl telluride in the breath and sweat of animals and man as a garlic odor seems an understatement of fact.

The four chapters on the uses of tellurium in thermoelectric devices, in metallurgy, and in miscellaneous applications in catalysts, antioxidants, lubricants, therapeutic agents, explosives, and gasses are very informative.

As stated on p. 322, in the chapter on tellurides for thermoelectric devices, the majority of the semiconductors useful for thermoelectric applications are tellurides. The search for the most effective semiconductors for directly converting heat into electricity is illustrated by the 20 pages listing binary and ternary tellurides in chapter 4 on inorganic chemistry of tellurium.

Perhaps an artifact of any book written by several authors is the long time lag between preparation of the manuscripts and the final publishing of the book. The almost complete lack of coverage of the literature for the past 5 years definitely diminishes this book's current and future value.

CHANGE OF ADDRESS

Please notify the editor of any address change: Dr. Ralph M. Perhac, Department of Geology, University of Tennessee, Knoxville, Tennessee 37916, USA.