The Geochemical News

Number 61 March 1982

A letter from the President

Geochemical Society Members:

Organizations exist to accomplish certain goals. It is worthwhile for any organization from time to time to review what these goals are and whether they are still valid. The Geochemical Society is no different. An examination of what the Geochemical Society is trying to accomplish and a review of how the Society fits in the international structure of science seems called for especially in the present uncertain economic climate.

Article II of the Constitution states that "the object of the Society shall be to encourage the application of chemistry to the solution of geological and cosmological problems." In addition, the Society is composed of private individuals and not governments. The focus of the Society is on North America although we maintain an international interest. Encouragement of the application of chemistry to geological and cosmological problems is done by communication through scientific talks presented at the annual meetings of the Society in affiliation with the Geological Society of America (GSA) and through editorial control of the journal Geochimica et Cosmochimica Acta. Our association with the GSA is enduring because no other meeting gathers such a broad spectrum of earth scientists for communication and no other meeting provides employment interview services covering all of geochemistry. Neither citizenship in a North American country nor membership in the Society is required to present a paper at the Society's annual meetings or to publish in the journal. The Society does undertake responsibility to ensure high quality for both functions, however. The Society has had one President who was not a North American (T.F.W. Barth), but his term was while he was on sabbatical in North America. Recently the Society has elected to have two non-North American Councilors to maintain a healthy communication of North American geochemists with our international colleagues; however, most Councilors in the past have been North Americans and at least 75 percent will be in the future. The Society recognizes excellence in geochemistry wherever it exists. Our highest award - the Goldschmidt Medal and Strock Honorarium - is in honor of one of the fathers of geochemistry who was from Europe. This year's Clarke Medal went to a European for the first time. The Treibs Award is not only presented in honor of a European, but all winners to date are also Europeans.

There is a need for regional societies such as the Geochemical Society as we provide a forum for a large group of people who speak the same language, live on the same continent, and face similar political problems. In view of the present uncertain economic climate, it is increasingly important that regional problems be confronted. As an example, two years ago the Society endorsed a national program - the U.S. Continental Scientific Drilling Program - which is of great interest to geochemists. Continental scientific drilling is also a component of the major international earth science program for the 1980's, so there is a possibility of developing international exchanges in the future. On the other hand, international exchanges call for a different type of organization than a regional society composed of private individuals such as the Geochemical Society.

International societies are composed primarily of governments as corporate members. No more than one councilor comes from any one country, and the officers of these societies rotate amongst various countries. The overall governing body is the International Council of Scientific Unions (ICSU). On the next level of organization are unions more familiar to us, such as the International Union of Geodesy and Geophysics (IUGG) and the International Union of Geological Sciences (IUGS). In each of these two unions there is an association that oversees geochemistry and cosmochemistry. In the IUGG it is the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI), and in the IUGS it is the International Association of Geochemistry and Cosmochemistry (IAGC). In a number of countries, citizens can only belong to state organizations, and this precludes the Geochemical Society's becoming an all-encompassing international organization. Also, where state agreements are needed, it is these formal international organizations that come into play. For example, the Geochemical Society could not propose to a North American government that geochemists be financed to attend the IUGS meeting in Paris in 1980. This was done by the arm of the U.S. Government set up to support the IAGC - the U.S. National Committee on Geochemistry (USNCG), - and 35 U.S. geochemists were funded to go. The Geochemical Society has endorsed the Fourth and Fifth International Meetings on Cosmochronology, Geochronology and Isotope Geology and has loaned money to the organizers, but we could not propose that the Federal Government lend added support. Both the IUGS and IAVCEI have donated funds to the Fifth Conference.

In support of the important role played by the formal international organizations, and in recognition that the Geochemical Society cannot play that role but nevertheless fulfills an important need for regional societies, the Geochemical Society became a non-voting corporate member of IAGC some years ago. Its participation was relatively inactive for a number of years; but on the evening of 4 November 1981, some officers of the Society and of IAGC got together to initiate discussions as to how we could be mutually beneficial to each

other. From the IAGC were present Vice President Brian Hitchon, Secretary Ernest Angino, and Past President George Wetherill, and from the Geochemical Society Past President George Tilton, Vice President Robert Berner, Councilor Hugh Taylor and myself. David Hewitt, a member of the USNCG and (by a few hours) Past Treasurer of the Geochemical Society, was also present. It was an amiable group, since several of us are private members of both organizations. These initial discussions focused largely on what each organization was and wasn't, and it occurred to me that a letter of clarification to the membership of the Geochemical Society might be appropriate. The Geochemical Society views its prime function as promoting geochemical and cosmochemical research in North America but with an interest in the science worldwide. In this we are not alone. Some other organizations that are concerned to a great degree about various aspects of geochemistry and cosmochemistry in North America are the Meteoritical Society; the Section on Volcanology, Geochemistry and Petrology of the American Geophysical Union; the Association of Exploration Geochemists; the Society of Environmental Geochemistry and Health, and the Mineralogical Society of America. The IACG prime function, along with the IAVCEI, is to have the lead in promoting geochemical and cosmochemical research on the international scene. For a healthy science we need to find ways for these various organizations to be mutally supportive.

Bruce R. Doe
President

Meetings and Symposia

1982 ANNUAL MEETING

The 1982 Annual Meeting of the Society will be held in conjunction with the Annual Meeting of the Geological Society of America in New Orelans, 17-21 October 1982. In addition to the open sessions of scientific papers and the awards ceremony, two symposia are planned at this time. A full day symposium on Sunday, 17 October, will be on the theme "The Geochemistry of Radionuclide Migration/Retardation." The organizers are Judith B. Moody of the Office of Nuclear Waste Isolation and Dr. Thomas Wolery of the Lawrence Livermore Laboratory. In addition, a half day symposium is being organized by Thomas C. Hoering of the Geophysical Laboratory, on the theme "Organic Geochemistry and Mineral Deposits" to be scheduled some time in the period of 18-21 October. The Presidential Address by Bruce R. Doe of the U.S. Geological Survey will have the title "The Past is the Key to the Future."

NINTH SYMPOSIUM ON GEOCHEMICAL CYCLES

The Work Group on Geochemical Cycles is planning to hold its ninth annual symposium in New Orleans on Sunday 17th October 1982. A form for the use of intending participants will be found on p. 7 below.

Councilors from outside North America

The Society Council in 1980 overwhelmingly endorsed expanding the number of Councilors from six to eight with the proviso that at least two should be from outside North America. To help ensure that the Councilors from outside North America can attend at least one council meeting per year, the Council voted last November to guarantee each of these Councilors one round trip airplane ticket per year. It is hoped that other North American organizations will help support the expenses while the Councilors are in North America and will help to defray the cost of international travel. One organization has already pledged expenses for one of the Councilors for 1982. This action furnishes a splendid opportunity for North American geochemists to meet some of the finest geochemists from outside North America. You are invited to contact these Councilors directly to explore possibilities for a visit to your institution. You will have to provide at least travel and per diem expenses within North America and an honorarium. One Council meeting will be on May 30 in Philadelphia in conjunction with the AGU Spring Meeting; the other will probably be October 17 in New Orleans just before the GSA Annual Meeting. The names and addresses of the Foreign Councilors for 1982 are:

Dr. Yehoshua Kolodny,
Department of Geology,
Hebrew University,
Jerusalem, Israel.

Prof. S. Matsuo,
Department of Chemistry,
Tokyo Institute of
Technology,
Ookayama, Megure-ku,
Tokyo, Japan.

Dr. Werner F. Schreyer,
Mineralogisches Institut
der Universität,
Postfach 2148,
Bochum, 4630 West Germany.

Profs. Matsuo and Schreyer currently plan to attend the October 17 meeting. Werner Schreyer writes that he would be available for lectures right before the GSA Annual Meeting and suggests the following choice of topics:

1. Recent corrections and additions to the phase relationships in the system $MgO-Al_2O_3-SiO_2-H_2O$ (two new high-pressure phases: magnesiocarpholite and magnesiochloritoid);

2. The metamorphism of alunite deposits (probably many kyanite quartzites, corundum-sillimanite rocks and other aluminous deposits are of this origin);

3. Experiments bearing on the channel constituents of cordierites;

4. High temperature hornfels metamorphism and fluid inclusions in the basement of the Vredefort Dome, South Africa.

The plans of Prof. Kolodny are still unknown as this edition of The Geochemical News goes to press.

You will be happy to know that because of high interest rates in recent years and a number of economies, this extended activity can be undertaken with no increase in dues in the forseeable future.

Instrumentation crisis

An ad hoc committee of the U.S. Geological Sciences Board has been established to study the status of geochemical/mineralogical instrumentation in the U.S. The co-chairmen are William W. Hay and Geochemical Society member William C. Luth. Other members are W. Gary Ernst, Gerald V. Gibbs and Geochemical Society members Joseph V. Smith and Past President George R. Tilton. J. V. Smith currently is President-Elect of the Volcanology, Geochemistry and Petrology Section of the American Geophysical Union, and has recently published an eloquent editorial on the present status of instrumentation (EOS Vol. 62 No. 47, p. 1153). Smith states:

> "Not only is much of the present equipment obsolete and poorly maintained because of lack of technical staff and money, there is also great concern about the pressing demands of new instruments (e.g. synchrotrons, ion microprobes, high-energy mass spectrometers)."

The report of the Committee is scheduled for completion by March 1982.

U.S. Continental Scientific Drilling Program

The Society endorsed the concept of this program on 22 May 1980. The program is managed by the U.S. Continental Scientific Drilling Committee (CSDC), of which Geochemical Society member Eugene Shoemaker is chairman. The major effort amongst geochemists has so far focussed on cores from the Precambrian granite drilled by Commonwealth Edison in Stephenson County, northern Illinois, to depths of 1607 m with 900 m penetration of the granite. The chairman of the ad hoc committee set up to manage the scientific consortium is Prof. Bezalel Haimson of the University of Wisconsin. Geochemical Society member W. R. Van Schmus of the University of Kansas is curator of the core, and geochemical enquiries should be addressed to him. An informal symposium on the geochemistry of the core was held at the Annual Meeting of the Society with the Geological Society of America in Cincinnati, Ohio, on the afternoon of 3 November 1981. The Precambrian granitic rock penetrated by the hole turns out to be

fascinating, as the contents of some trace elements are unusually high: U, 15-65 ppm; Th, 50-145 ppm; Pb, 50-75 ppm. The granite is generally of a reddish appearance, and can be exceedingly coarse grained. Its age is about 1450 m.y. as determined by several radiometric dating techniques.

The CSDC publishes a newsletter called DEW (for Drilling Early Warning). So far four issues have been circulated. The latest, dated 9 October 1981, tells of cores from the Nevada Test Site, a 2400-m hole in sediments on the Delmarva Peninsula, and a 1807-m hole on the west flank of Mt. Hood, Oregon. To be put on the mailing list of the DEW Newsletter, write to:

Robert Andrews,
Continental Scientific Drilling Committee,
2101 Constitution Avenue, N.W.,
Washington, D.C. 20418

Continental drilling is to be an important component of the international program for earth science in the 1980's - Dynamics and Evolution of the Lithosphere, - and falls under the purview of Coordinating Committee 6 with the following objectives:

1. To develop mechanisms for international and interdisciplinary communication and cooperation in the scientific utilization of opportunities for continental deep drilling, and the results of measurements made in connection with such drilling;

2. To investigate the possibilities offered by new instrumental technology for scientific measurements in deep boreholes;

3. To encourage international collaboration in the continents.

Continental drilling is only one component of the overall program. Those wishing to see the entire document can obtain it by requesting ICL Report No. 1 from:

Edward A. Flinn, Secretary-General,
International Lithosphere Program,
c/o Geodynamics Program Office, Mail Code ERG-2,
National Aeronautics and Space Administration,
Washington, D.C. 20546, U.S.A.;

or

Geologisches Institut der Universitat,
Kaiserstrasse 12,
D 75 Karlsruhe,
West Germany.

WORK GROUP ON GEOCHEMICAL CYCLES - NINTH SYMPOSIUM
NEW ORLEANS, 17 NOVEMBER 1982

First Circular

Technical Sessions, 9 a.m. to 6 p.m.: About 6 papers on topics related to geochemical cycles, mass balances and modeling. The atmosphere is informal, and discussion is encouraged.

Speakers' Reception, 6-8 p.m.: Refreshments and further discussion.

Intending participants please complete this form and mail it before 30 April 1982 to:

Bryan Gregor,
Work Group on Geochemical Cycles,
Department of Geological Sciences,
Wright State University,
Dayton, Ohio 45435

1. Name _____ Address _____

   Tel. No. _____ _____

   _____

   _____

2. I mean to attend the Symposium but will not contribute a paper _____ (x if appropriate)

3. If called on, I would contribute a paper (up to 1 hour including discussion) on

_____

_____

_____ (topic)

4. I would write, if called on, a short critical review of the Symposium for eventual submission to the Sponsors together with the Chairman's Report:
   _____ (Yes/No)

5. If offering a paper, briefly summarize the gist of it on the back of the page.

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