The Geochemical News

NUMBER 35 DECEMBER 1962

ANNUAL MEETING OF THE GEOCHEMICAL SOCIETY

The annual meeting of The Geochemical Society was held November 11--14, 1962 at the Shamrock-Hilton Hotel in Houston, Texas, in conjunction with the Annual Meetings of The Geological Society of America and associate societies. The Council of The Geochemical Society met on Monday from 8:30 to 3:00 and again at a luncheon meeting on Wednesday with George Tunell presiding on both occasions. Reports of the proceedings and the committee reports will appear in the next issue of The Geochemical News. The business meeting of the Society was held at 4:00 p.m. on Monday, November 12th.

Geochemistry was well represented in four scientific sessions highlighted by a Symposium on Biogeochemistry of Organic Matter, which was particularly successful and well attended. The program of geochemical papers follows:

Nov. 12, Monday Morning. INORGANIC GEOCHEMISTRY I.
A. Volborth and D. R. Wones, Co-chairmen

R. A. LAUDISE and E. D. KOLB: Solubility of zincite under hydrothermal conditions

WILLIAM D. GREEN, PAUL E. DAMON, and JACK A. ALLEN: Uranium and thorium diffusion in magnetite

R. GORDON GASTIL and MARK DeLISLE: Variations in the lead-alpha ratio of zircons under varying grades of contact metamorphism

W. H. PINSON, P. M. HURLEY, M. L. BOTTINO, H. W. FAIRBAIRN, and G. FAURE: Evidence on the origin of felsic volcanic rocks from their initial abundance of Sr^{87}

LEON E. LONG and RICHARD ST. J. LAMBERT: Recent advances in Rb-Sr dating of the Moine Series, northern Scotland

D. G. BROOKINS, P. M. HURLEY, H. W. FAIRBAIRN, and W. H. PINSON: Whole-rock Rb-Sr investigations of the Collins Hill, Maromas, and Glastonbury formations at Collins Hill, Connecticut

PAUL E. DAMON, MICHAEL BIKERMAN, ROLFE C. ERICKSON, and DONALD E. LIVINGSTONE: K-Ar dating of pyroclastic rhyodacites in southeastern Arizona

G. FAURE, P. M. HURLEY, H. W. FAIRBAIRN, and W. H. PINSON: Estimate of the isotopic composition of strontium in rocks of the Precambrian basement, Canada

PAUL C. RAGLAND and JOHN A. S. ADAMS: Partial trend surfaces within the Enchanted Rock batholith, Llano uplift, Texas

MARVIN A. LANPHERE, G. J. WASSERBURG, A. L. ALBEE, and G. R. TILTON: Isotopic and petrologic study of the reconstitution of a Precambrian gneiss during Cretaceous time

P. J. WYLLIE and O. F. TUTTLE: Experimental investigation of silicate systems containing two volatile components. Part III: Effects of SO_3, P_2O_5, HCl, and Li_2O, in addition to H_2O, on the melting temperatures of albite and granite

Nov. 12, Monday Morning. ORGANIC GEOCHEMISTRY I, SYMPOSIUM ON BIOGEOCHEMISTRY OF ORGANIC MATTER
J. R. Vallentyne and J. L. Mertensen, Co-chairmen

EDWIN L. SCHMIDT: Microbial transformations of soil organic matter

G. W. HODGSON, B. L. BAKER, and ERIC PEAKE: Chlorins and porphyrins in the origin of petroleum

GORDON P. LINDBLOM: Microbial action on organic matter in marine sediments

F. J. STEVENSON: Chemistry of soil organic matter

J. R. VALLENTYNE: Concluding remarks

Nov. 12, Monday Afternoon. ORGANIC GEOCHEMISTRY II
Irving A. Breger and John M. Hunt, Co-chairmen

EGON T. DEGENS and HELMUT J. REUTER: Biochemical compounds in the sea and the sediments off the shore of California

P. L. PARKER: Biogeochemistry of the stable isotopes of carbon in a marine bay

M. L. KEITH and G. M. ANDERSON: Isotopic within-shell variation in mollusks, in relation to their environment

GROVER J. SCHRAYER and WILLIAM M. ZARRELLA: Organic geochemistry of shales. I: Distribution of organic matter in the siliceous Mowry Shale of Wyoming

C. B. KOONS, G. W. JAMIESON, and H. M. GEHMAN: Vanadium-nickel ratios of oil seeps and crude oils in the Wind River basin, Wyoming

EGON T. DEGENS, JOHN M. HUNT, and HELMUT J. REUTER: Geochemical data of petroleum brine waters of Paleozoic age from Oklahoma

JOSEFINA LUGAY, BARTHOLOMEW NAGY, and JOHN F. LONTZ: Crystallization kinetics of petroleum asphaltenes

Nov. 14, Wednesday Morning. INORGANIC GEOCHEMISTRY II
Donald L. Graf and Raymond C. Murray, Co-chairmen

P. E. POTTER, N. F. SHIMP, and J. WITTERS: Trace elements as environmental discriminators for argillaceous sediments

M. W. BODINE, JR., and H. D. HOLLAND: Coprecipation of manganese carbonate with calcite at elevated temperatures

DONALD E. MICHELS and RAMON E. BISQUE: Replacement of calcite by cerussite in dilute aqueous solutions at low temperature and pressure: discussion of mechanism

JEAN PASQUALI Z. and RAMON E. BISQUE: Replacement of calcite by fluorite in dilute aqueous solutions at low temperature and pressure; discussion of mechanism

P. E. ROSENBERG and H. D. HOLLAND: Preliminary report on the stability of calcite, dolomite, and magnesite in the system $CaCO_3$-$MgCO_3$-H_2O-CO_2

WILLIAM H. TAFT: Cation influence on the recrystallization of metastable carbonates, aragonite, and high-magnesium calcite

BEVAN M. FRENCH and HANS P. EUGSTER: Stability of siderite, $FeCO_3$

ROBERT A. BERNER: Nature and environment of formation of iron sulfide in recent marine sediments

J. N. WEBER and M. L. KEITH: Isotopic composition and environmental classification of selected limestones and fossils

R. L. HAY and R. J. MOIOLA: Authigenic silicate minerals in Pleistocene sediments of Searles Lake, California

LEON T. SILVER: Relation between radioactivity and degree of discordance in U-Th-Pb isotope systems in zircons

J. R. KRAMER: History of composition of sea water

CONSTITUTION OF THE GEOCHEMICAL SOCIETY

With revisions to November 1962

I. The Society shall be known as The Geochemical Society.

II. The object of the Society shall be to encourage the application of chemistry to the solution of geological and cosmological problems.

III. 1. The officers of the Society shall be a President, a Vice-President, a Secretary, a Treasurer and an Executive Editor. The President and the Vice-President are to be elected annually by a majority of those voting. The Secretary, the Treasurer and the Executive Editor are to be elected by a majority of those voting to serve terms of three years; the Secretary and the Treasurer shall be eligible for election to not more than one consecutive term of three years. The Executive Editor shall be eligible for election to more than one consecutive additional term.

2. There shall be an executive council, to be composed of the above officers, the retiring president, and six other members of the Society, who shall be elected for terms of three years each.

IV. 1. There shall be only one type of general membership. All members shall be entitled to vote on all matters, including elections of officers, that are considered by the Society.

2. Any person of good character and unchallenged basic scientific integrity and honesty, regardless of sex, nationality, residence, employment, prominence or proficiency, may become a member providing only that he or she

a) will subscribe to the declared purposes of the Society, and

b) can evidence a general understanding of the field of endeavor by at least a Bachelor's Degree in one of the following fields: physical science, biological science, mathematics, or engineering; or by three years or more of activity in any of these disciplines (including teaching, research, application, bibliographic and editorial service).

V. Amendments to the constitution may be proposed to the Council by any 25 members. The Council shall indicate whether it approves or disapproves, but in either case they shall be submitted to the members for mail ballot.

The amendment is accepted if approved by two-thirds of those voting on it.

BY-LAWS OF THE GEOCHEMICAL SOCIETY

I. The annual dues of all members resident in North America shall be three dollars ($3.00), twenty per cent of which shall be paid by the Society to the American Geological Institute. The annual dues of all members resident outside North America shall be three dollars ($3.00) if they wish to join the American Geological Institute, but shall be two dollars and fifty cents ($2.50) if they do not. Memberships are to run for calendar years.

II. 1. The duties of the officers shall be usual ones performed by such officers. The president, secretary, treasurer and executive editor shall make annual reports to the Society.

2. The Executive Council shall direct all affairs and activities of the Society, including the expenditure of its funds. In the event that executive action must be taken in the absence of a quorum of the Executive Council, the President may convene a committee of three officers as an "emergency executive committee." The members of such an "emergency executive committee" shall be the President, the Treasurer, and Secretary; if one of these is not available to attend, the President may appoint some other member of the Executive Council to act in his stead. Such an "emergency executive committee" can be empowered by the Executive Council to act on behalf of the Executive Council in all matters.

3. The President shall appoint, with the approval of the Council, such committees as may be needed to further the objects of the Society. These shall include a Nominating Committee and a Program Committee. The Nominating Committee shall consist of five members, not more than one of whom shall be a member of the Council, to serve one-year terms. The Chairman shall be chosen from one of the members of the committee for the preceding year. The Program Committee shall consist of three members plus the Secretary serving ex-officio. They shall, operating under policies laid down by the Council, make arrangements for the program of the annual meeting and shall cooperate with other Societies having programs of interest to this Society.

4. The President shall appoint, with the approval of the Council, six Regional Vice-Presidents, one for each continent, to remain in office at the pleasure of the Council. The Regional Vice-Presidents shall undertake to promote in every proper way the welfare of the Society, each in his own part of the world.

5. The Executive Editor shall have full responsibility for the official journal of the Society. He can appoint, with Council approval, an appropriate number of associate editors, representing areas of active geochemical and cosmochemical research and interest. Terms of the associate editors expire with the term of the Executive Editor or with his resignation and they may, with Council approval, be reappointed for additional terms.

III. Nominations for office shall be made by the Council, one nomination for each office. They shall be made known to the members at least four months before the annual meeting. Other nominations may be made in writing by any ten members; they must be in the hands of the secretary at least sixty-five days before the annual meeting. Ballots carrying all nominations without distinction between those of the Council and any others shall

be distributed to the members. The officers elected shall enter on duty at the adjournment of the annual meeting.

IV. The Council shall have the authority to arrange for affiliation or association with other scientific societies, and the president shall, with the Council's approval, appoint representatives to such organizations.

V. There shall be an annual meeting of the Society, to be held, whenever practicable, at the same time and place as that of The Geological Society of America, and such other meetings as may be called by the Council.

VI. Amendments to the By-Laws may be proposed to the Council by any ten members of the Society. The Council shall indicate its approval or disapproval, but in either case, they shall be submitted to the members by mail ballot and must be approved by two-thirds of those voting upon them.

BOOK TRANSLATIONS

As of November 1962

The following outline indicates the status of the book translation program of The Geochemical Society:

Already published, or otherwise available

KORZHINSKY, D. S. Physicochemical basis of the analysis of the paragenesis of minerals. Consultants Bureau, 227 W. 17th St., New York 11, N.Y. 142 pp., 1959. $7.50.

VINOGRADOV, A. P. The geochemistry of rare and dispersed chemical elements in soils. Consultants Bureau, 227 W. 17th St., New York 11, N.Y. 209 pp., 1959. $9.50.

GINZBURG, I. I. Principles of geochemical prospecting. Pergamon Press, 122 E. 55th St., New York 22, N.Y., or 4 & 5 Fitzroy Sq., London, W.1, England. 311 pp., 1960. $11.50. Translation done by funds from three private companies, supplied to the Translation Editor.

BEUS, A. A. Mineralogy and Geochemistry of beryllium. Original, 148 pp., 1956. W. H. Freeman and Co., San Francisco. 161 pp., 1962. $7.50.

ABDULAEV, KH. M. Dikes and post-magmatic mineralization. 232 pp., 1957. Positive microfilm copies available at $11.00 each from The American Geological Institute, 2101 Constitution Ave., N.W., Washington 25, D.C.

Translated and edited, but not published

KRASNIKOV, V. I. (ed.), Geochemical prospecting for ore deposits in the USSR, 407 pp., 1957. This book is in the course of publication by Pergamon Press. It was translated under a grant from the National Science Foundation to The University of California, but was turned over to The Geochemical Society for sponsorship of publication. Promised for Feb. or March, 1963.

SINDEEVA, N. D. Mineralogy and types of deposits of selenium and tellurium. 255 pp., 1959. In course of publication by Interscience Publishers, New York.

STRAKHOV, N. M. (ed.), Types of dolomite rock and their genesis. 378 pp., 1956. This book was translated under a grant from the Petroleum Research Fund of the American Chemical Society through the University of Texas. Its publication, which is being sponsored by the Society, will be by Ronald Press, New York.

ERMAKOV, N. P. Investigations of mineral-forming solutions. 200 pp., 1950, (plus two supplements which bring the text up to date). All three parts are largely concerned with studies of liquid inclusions in minerals. Pergamon Press, 122 E. 55th St., New York 22, N.Y. Manuscript submitted summer, 1962.

Translation complete, but manuscript not yet edited

ANDREEV, P. F., et al. Transformations of petroleum in nature. Leningrad. 416 pp., 1958.

BEUS, A. A. Geochemistry of beryllium and genetic types of beryllium deposits. Publication will be by W. H. Freeman and Co. 330 pp., 1960.

IVANOV, V. V., et al. Thallium: its geochemistry and mineralogy, genetic types of deposits, and geochemical provinces. 156 pp., 1960.

VLASOV, K. A., et al. Lovozero alkalic massif. 623 pp., 1960. Translated under joint sponsorship with the British Department of Scientific and Industrial Research. It will be published by Oliver and Boyd, 39A Welbeck St., London, W.1, England.

VERSHKORSKAYA, et al. Gallium: its geochemistry and mineralogy. 146 pp., 1960.

Selected portions translated for publication in International Geology Review

BETEKHTIN, A. G. (ed.). Fundamental problems in the magmatic origin of ore deposits. 622 pp., 1955.

SMIRNOV, V. I. Geological principles for prospecting and searching for ore deposits. 587 pp., 1957. Pages 346-380 translated and published, I.G.R. vol. 2, no. 9, pp. 739-762, Sept. 1960.

Selected for translation, but contract not yet awarded

TAUSON, L. V. Geochemistry of rare elements in granitoids. Moscow, 231 pp., 1961.

Earl Ingerson
Editor, Book Translations

CURRENT STATUS OF THE ACTA

Report to the Council of The Geochemical Society, November 12, 1962

Commencing with the January, 1962, issue, the Acta began the following:

1) publishing the issues of one calendar year as one volume, i.e., all of the 1962 year as Volume 26;

2) publishing monthly on a fixed schedule, whether or not all galley proof was returned by authors for the planned number; those papers for which galley was not returned in time were reserved for insertion in later numbers.

According to the information from the publishers, the November issue is being distributed and the December issue is at the printer's, marking the first time that twelve separate issues of the Acta will appear in one calendar year.

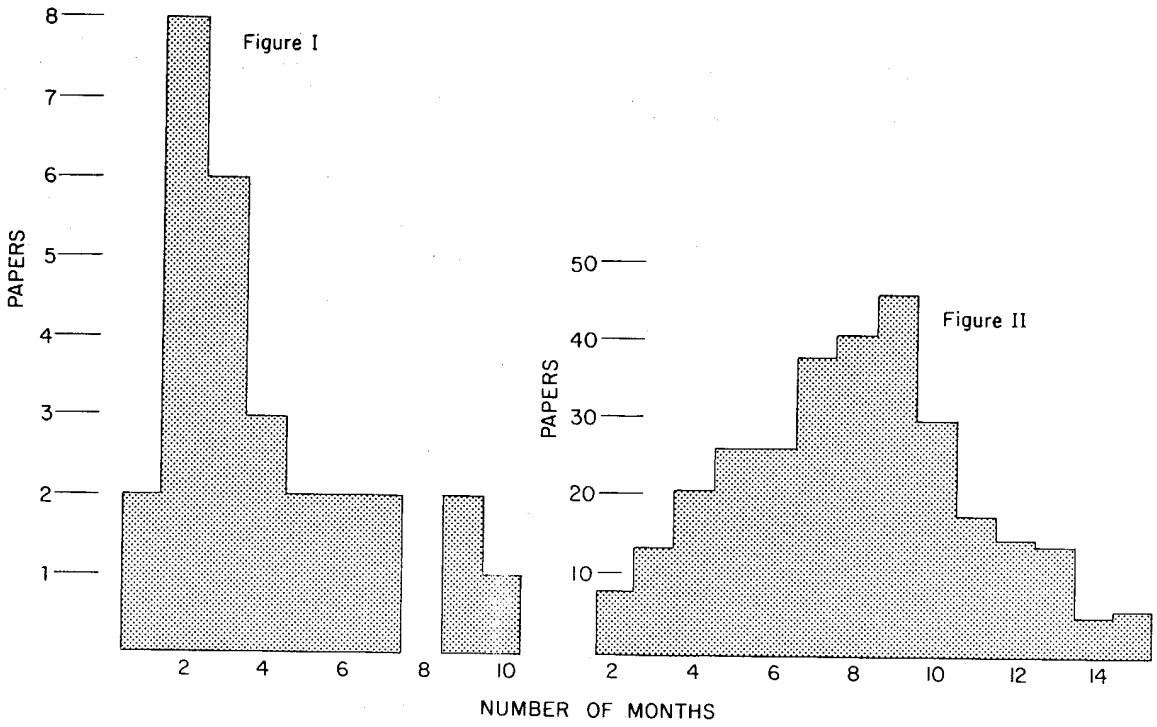
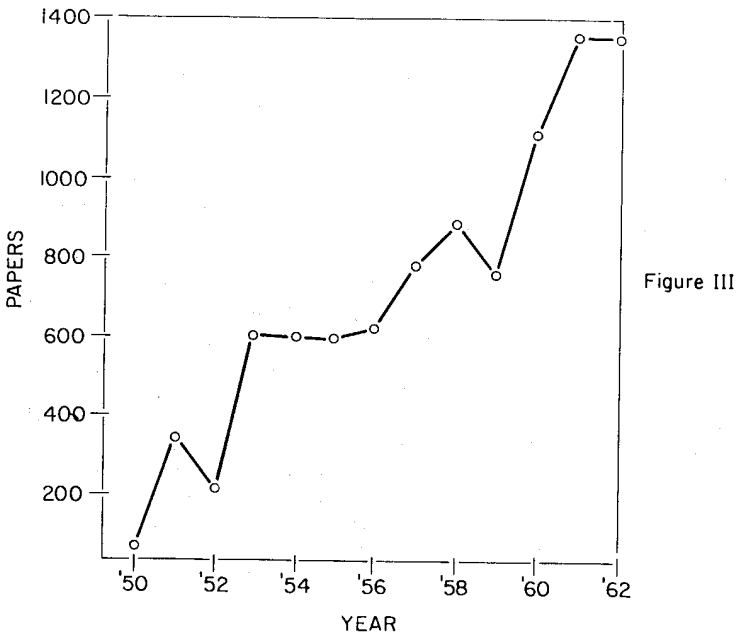


Figure I
PAPERS
8
7
6
5
4
3
2
1
2
4
6
8
10
Figure II
PAPERS
50
40
30
20
10
2
4
6
8
10
12
14
NUMBER OF MONTHS


PAPERS
1400
1200
1000
800
600
400
200
'50
'52
'54
'56
'58
'60
'62
YEAR
Figure III

The number of pages published annually in the Acta is shown in Figure III. In the current volume, 26, no statement appears on the inside of the cover regarding the number of pages to be published annually although previous volumes indicated a minimum of 900 pages annually.

In general it takes an average of 7 to 9 months for a paper to appear in the Acta (Figure II). The presidential address of H. C. Urey at the last annual meeting of The Geochemical Society appeared in less than 3 months; the presidential address of T. F. W. Barth of the previous year appeared in a little over 5 months. These presidential addresses, being privileged papers not subject to review, were in the publisher's hands within a week or so after being read. Thus, these presidential addresses represent a measure of the time it takes to transmit and print papers exclusive of editing and reviewing.

Editing, reviewing, and revision have taken from 2 to 3 months, as indicated in Figure III, where the time between receipt of the first draft and the receipt of the revision based upon the reviewers' comments is shown. Such data are not available for all papers published since 1950, and Figure I is based upon all such dates printed in past volumes of the Acta and upon the records of the present American Executive Editor for papers in press. It is estimated that the time for editing and reviewing has been cut an average of a month in the past year because of the decision of last year's Council meeting to permit the Editor to accept a paper if he and one independent and thorough reviewer considered it suitable for publication. It should be noted that when authors and reviewers disagree, sometimes vehemently, and authors agree to seek the comments of fourth and even fifth reviewers, the editing and reviewing has stretched out to two or three times the usual 2 to 3 months. In the same vein, some authors have taken several months to complete extensive revisions to their manuscripts.

Recommendations. 1) Continuing efforts should be made to reduce the time between receipt and publication, although it must be noted that past experience, as well as the opinion of all with operational experience with the present system (present editors, past editors, and the publishers), indicates that it will be difficult to reduce the median publication time to less than 6 months. The main hope of improvement lies in finding reviewers who are competent and thorough as well as prompt.

2) The present time between receipt and publication is apparently not a matter of great concern with many of the authors accustomed to the longer delays of many geological journals. It is of great concern to some authors working in rapidly advancing lines of research. The latter often submit their manuscripts in the form of mimeographed or otherwise duplicated preprints, which they circulate while the manuscript is being reviewed and printed. One way to secure early recognition of such research and make it as widely available as possible might be to publish unedited abstracts of forthcoming papers together with a statement of where preprints might be obtained. Such a system would have the following advantages: a) publication of the abstract within one or two months after receipt (assuming no galley proof to authors); b) this abstract could be referred to as a regular scientific citation; c) wide dissemination of the information; d) availability of preprints with more complete details to the relatively small number of workers with immediate and intense interest in the topic; e) reviewing might be expedited if the editor had available the preprint distribution list from which to select reviewers.

The main disadvantage of such a system is that both authors and readers may lose interest in the revision of the reviewed manuscript. However, in these rapidly advancing fields it is equally likely that additional data, discussions and review will make the finished manuscript a significant advance over the abstract.

3) It is recommended that the President of the Society write to Pergamon Press formalizing the several verbal or poorly documented agreements with Pergamon Press regarding the selection of editors of all categories, their terms

of office, the number of pages to be published annually, the operating funds to be supplied annually to the editors by the publishers, and other such matters.

John A. S. Adams
American Executive Editor

PEACE CORPS GEOLOGISTS REQUESTED BY GHANA

Ghana has sent an urgent request to the Peace Corps for 20 geologists, geochemists, geophysicists and mining geologists, Jules Pagano, Director of the organization's Professional and Technical Division said this week.

"There has never been a detailed assessment of the natural resource capabilities of Ghana," Pagano explained. "Naturally, this has greatly hampered the country's economic development."

Ghana has only a few trained geologists. Government officials estimate that it will take at least six years before adequate national talent can be trained.

Applications for the geology positions are being accepted now, with training slated for late February. Volunteers are scheduled to start work in Ghana by next May.

The mining geologists will be employed in improving present mining operations, directed toward increasing productivity as well as in developing new sources of high yield ores.

The geologists will be required for general geological mapping and evaluation of promising mineral sites. They will also be involved in core drilling, preparation of core samples, and in supplying their co-workers, the Peace Corps geochemists, with required geological samples.

The geochemists will conduct detailed chemical analysis of promising mineral areas and provide direction to field operations.

The geophysicists will do detailed studies in underground water, delineation of ore strata, and foundation investigation for proposed heavy construction.

The Peace Corps Volunteer geologist has an opportunity to do hard, useful work in constant touch with the people of the host country as a part of his work. As one geologist in Tanganyika said: "I haven't forgotten that I'm Peace Corps but some of the sentiment has been washed away by hard work and an awareness of the problems confronted by geologists -- or anyone for that matter -- in a country like Tanganyika. We're getting to know Africans as part of a working set-up and in this way we shall get to know them better than consciously making friends."

In addition to Ghana and Tanganyika, Peace Corps geologists are also working in Cyprus.

The Volunteers, who serve two-year terms, are provided with housing, food, clothing, and traveling expenses as well as $75 each month, which is accrued for them in the states. This amounts to a $1,800 separation allowance.

Married couples are eligible, if both persons can do Peace Corps jobs. The minimum age is 18; there is no upper age. The Volunteer must have a minimum background of a college degree in geology, and be an American citizen.

For further information concerning geology projects write Jules Pagano, Director, Professional and Technical Division, Peace Corps, Washington 25, D.C.

PUBLICATIONS RECEIVED

ANGINO, E. E., K. B. ARMITAGE, and J. C. TASH. Air temperatures from Taylor Glacier Dry Valley, Victoria Land, 1961. Polar Record, 11, (72), 283-284, 1962.

_____. Chemical stratification in Lake Fryxell, Victoria Land, Antarctica. Science, 138, (3536), 34-36, 1962.

BAILEY, S. W. and B. E. BROWN. Chlorite polytypism: I. Regular and semirandom one-layer structures. Amer. Mineral., 47, 819-850, 1962.

BAMBAUER, H. U., G. O. BRUNNER, and F. LAVES. Wasserstoff-Gehalte in Quarzen aus Zerrklüften der Schweizer Alpen und die Deutung ihrer regionalen Abhängigkeit. Schweiz. Mineralogische und Petrographische Mitteilungen, 42, (1), 221-236, 1962.

BARTH, TOM F. W. and JOHANNES A. DONS. Precambrian of southern Norway. Geology of Norway, Norges Geologiske Undersøkelse, (208), 6-67.

_____. Garnet-sillimanite and garnet-spinel bands in the layered gabbro series in Seiland, North Norway. Uppsala Univ. Geol. Inst. Bull., XL, 17-24, 1961.

_____. Ideas on the interrelation between igneous and sedimentary rocks. Comptes Rendus Soc. geol. Finlande, XXXIII, 321-326, 1962.

_____. Abundance of the elements, areal averages and geochemical cycles. Geochim. et Cosmochim. Acta, 23, 1-8, 1961.

_____. The feldspar lattices as solvents of foreign ions. Cursillos y Conferencias, VIII, 3-8, 1961.

BURWASH, R. A., H. BAADSGAARD, and Z. E. PETERMAN. Precambrian K-Ar dates from the western Canada sedimentary basin. Jour. Geophys. Res., 67, (4), 1617-1625, 1962.

GREENER, E. H., G. FEHR, and E. E. ANGINO. Thermoluminescence of alpha niobium pentoxide. Jour. Amer. Ceram. Soc., 45, (2), 1962.

_____ and W. M. HIRTHE. Thermoluminescence of thoria. Jour. Chem. Physics, 36, (4), 1105-1106, 1962.

HAYASHI, HISATA, AKIRA INABA, and TOSHIO SUDO. Complex clay mineral mixtures occurring in amygdales of basalt. Clay Sci., 1, (3-4), 12-18, 1961.

HEIER, KNUT S. Petrology and geochemistry of high-grade metamorphic and igneous rocks on Langøy, Northern Norway. Norges Geologiske Undersøkelse, (207), 1-246, 1960.

_____. The amphibolite-granulite facies transition reflected in the mineralogy of potassium feldspars. Cursillos y Conferencias, VIII, 131-136, 1961.

KEIL, KLAUS. Fortschritte in der Meteoritenkunde. Fortschr. Miner., 38, (2), 202-283, 1960.

_____. On the phase composition of meteorites. Jour. Geophys. Res., 67, (10), 4055-4061, 1962.

_____ and B. JACOBI. Über einen granatführenden quarzporphyr aus dem Thüringer Wald. Chemie Erde, 21, (1), 131-132.

KENG, W. P. Geology of the Kuansi coal field, Hsinchu, Taiwan. Taiwan Geol. Survey Bull., (13), 43 pp., March 1961.

KÖNIG, H., K. KEIL, and H. HINTERBERGER. Untersuchungen an Steinmeteoriten mit extrem hohem Edelgasgehalt. Zeitschr. Naturfor., 17a, (4), 357-358, 1962.

_____, F. WLOTZKA, and F. BEGEMANN. Untersuchungen an Steinmeteoriten mit extrem hohem Edelgasgehalt: I. Der Chrondrit Pantar. Zeitschr. Naturfor., 16a, (11), 1124-1130, 1961.

LÖFFLER, KARL. Petrologische Studien an einem Gangkreuz Lausitzer Lamprophyre bei Niederfriedersdorf. Berichte Geol. Gesell., 1, 72-84, 1961.

LYON, R. J. P. Minerals in the infrared, a critical bibliography embracing the fields of absorption, reflection, emission, transmission in minerals and related minerals. Pub. Relations Dept., Stanford Res. Inst., Menlo Park, Calif. 76 pp. + xii, 1962.

McCRAW, J. D. Soils of the Ross Dependency, Antarctica: A preliminary note. New Zealand Soc. of Soil Science, Proceedings 4, 30-35, 1960.

MOENKE, HORST. Spurenelemente in chinesischen Graniten: Teil 1, Lithium und Rubidium in Gesteinen der Provinzen Liaoning, Hopei, Shantung, Kiangsu, Szetschuan und Hunan. Geologie, Jahrgang 11, (5), 529-537, 1962.

MOZOLA, ANDREW J. The bedrock topography of Wayne County, Michigan. Mich. Acad. Sci., Arts, and Letters, XLVII, 19-27, 1962.

OSADA, MASANORI and TOSHIO SUDO. Mineralogical study on the clay rich in chlorite associated with the gypsum deposit of the Iwami Mine, Shimane Prefecture. Clay Sci., 1, (3-4), 29-40, 1961.

PLAYLE, BRIAN. Contributions to the mineralogy of Norway: No. 4, New finds of coal blend. Norsk geol. tidsskr., 40, (11), 65-67, 1960.

SAEBØ, PER CHR. Contributions to the mineralogy of Norway: No. 11, On lanthanite in Norway. Norsk geol. tidsskr., 41, (2-4), 311-318, 1961.

_____ and HENRICH NEUMANN. Contributions to the mineralogy of Norway: No. 10, On synchisite in Norway. Norsk geol. tidsskr., 41, (2-4), 247-254, 1961.

SHIMOSAKA, KÔYA and TOSHIO SUDO. Mineralogy of Tertiary iron sand beds, Niiharu-Mura, Tone-Gun, Gumma Prefecture. Clay Sci., 1, (3-4), 19-29, 1961.

SUDO, TOSHIO, HISATO HAYASHI, and SUSUMU SHIMODA. Mineralogical problems of intermediate clay minerals. Clays and Clay Minerals, 8, 378-392, 1962.

_____, SATORU UEDA, and SHIGEKI IWAMOTO. Formation of hydrogarnet by chemical reaction among calcium carbonate, ammonium chloride, and some silicates. Nature, 188, (4746), 223-224, 1960.

TAN, L. P., I. C. HSU, and N. H. MAO. Geology of the Wuchihshan coal field, Hsinchu, Taiwan, Taiwan Geol. Survey Bull., (13), 1961.

TSAN, S. F., I. C. HSU, and N. H. MAO. Geology of the Hsitaopang coal field, Miaoli, Taiwan. Taiwan Geol. Survey Bull., (13), 1-36, 1961.

TAYLOR, S. R., K. S. HEIER, and T. L. SVERDRUP. Contributions to the Mineralogy of Norway: No. 5, Trace element variations in three generations of feldspars from the Landsverk I pegmatite, Evje, southern Norway. Norsk geol. tidsskr., 40, (2), 133-156, 1960.

YOSHIKAWA, KEIYA and TOSHIO SUDO. Quantitative estimation of montmorillonite in uranium deposits, Tottori Prefecture. Clay Sci., 1, (1-2), 1-8, 1961.

CALENDAR

Dec.	
26-31	AAAS, ann., Philadelphia, Pa.
27-29	AGU, Western Natl. Mtg., Stanford Univ., Palo Alto, Calif.
Feb.	
24-28	AIME, ann., Dallas, Texas
Mar.	
25-28	AAPG-SEPM, ann., Rice Hotel, Houston, Texas
Mar. 31-Apr. 5	Amer. Chem. Soc., ann., Los Angeles, Calif.

ION-EXCHANGE COLUMN

Geochemical Prospecting Seminar

The sub-committee on Mineral Resource Development, one of the standing technical bodies of the United Nations Economic Commission for Asia and the Far East (ECAFE), is now organizing a seminar on Geochemical Prospecting Methods and Techniques to be convened in August 1963 at Bangkok, Thailand. The seminar will stress the application of geochemical prospecting techniques in tropical and semi-tropical areas where normal techniques may be hampered by deep-rock weathering, thick soils, and jungle conditions. As tentatively planned at the present time, the program will include introductory lectures on geochemics of the ore districts of the ECAFE region and geochemical principles of weathering processes in tropical areas, and discussions on general principles, laboratory equipment and methods, and field techniques of prospecting as applied in tropical areas. Three days will be devoted to prospecting techniques for specific mineral deposits and a total of nine days is planned for the seminar. The Geochemical News will carry additional and more specific information on this seminar as soon as it becomes available.

Your attention is called to the critical bibliography on MINERALS IN THE INFRARED by R. J. P. Lyon as listed under "Publications Received". This excellent work includes 440 references and, although the bibliography is not annotated, the chemical abstracts, volume, number, and index are given for over 95 per cent of the entries. Those papers in which spectra are included are listed in heavy type in the index. Four bibliographies in infrared are included and to these should be added "Infrared Absorption of Inorganic Substances" by Katheryn Lawson, Reinhold, 1961, as it contains 1171 references including many on minerals. This work will be of particular value to researchers in this field.

SALT SYMPOSIUM VOLUME

In May of this year, the Northern Ohio Geological Society sponsored a Symposium on Salt at Cleveland, Ohio. More than 400 persons attended, representing 28 states, Canada, Mexico, and England. That society now announces the forthcoming publication of the symposium proceedings volume. This will be available early in 1963, will include 58 technical papers that were presented at the sym-

posium, and will contain over 600 pages of text, maps, and illustrations. The volume is divided into three parts: I, geology; II, mining, evaporated salt; III, solution mining, underground storage. The pre-publication price is $12.00, including postage. Checks should be made payable to NOGS Salt Symposium and orders should be addressed to Mr. Don Deardorff, Diamond Alkali Company, 300 Union Commerce Building, Cleveland 14, Ohio.

A recent list of reactor-produced isotopes available through General Electric has been received. Three isotopes -- cobalt-60, phosphorus-32, and iodine-131 -- can be ordered from stock and any other reactor-produced isotope can be produced in a special service irradiation or customer order. For information write to Mr. E. W. O'Rorke, Manager, Irradiations Services, Vallecitos Atomic Laboratory, Pleasanton, California. A list of isotopes produced to date includes:

tritium
carbon-14
phosphorus-32
sulfur-35
argon-39
calcium-45
chromium-51
manganese-54
iron-55, 59
nickel-63, 65
copper-64, 66
zinc-65
gallium-70, 72
selenium-75
bromine-80
rubidium-86
zirconium-95
molybdenum-99
rhodium-104
silver-108, 110
cadmium-109, 115
indium-114, 116
antimony-122, 124
tellurium-131
iodine-125, 131
zenon-125
cesium-134, 135
cobalt-58, 60
lanthanum-140
cerium-141, 143
praseodymium-142
neodymium-147, 149, 151
promethium-147, 149
samarium-151, 153, 155
europium-152, 154
gadolinium-153, 159
terbium-160, 161
dysprosium-159, 165
holmium-166
erbium-163, 165, 169, 171
thulium-170, 171
ytterbium-169, 175, 177
lutetium-177
hafnium-175, 181
tantalum-182
tungsten-181, 185, 187
rhenium-186, 188
iridium-192
platinum-197
gold-198
mercury-203
actinium-227
thorium-228, 233
protactinium-233
uranium-232
curium-242

Sand-in-the-Gears-of-Learning Department

Quaint Quotes from Student Notes:

"Benjamin Franklin produced electricity by rubbing cats backwards"

"The moon is a planet just like the earth but only deader"

"Sea water has the formula CH_2O"

"The earth makes a resolution every twenty-four hours"

Selected Daffynitions from our Unabashed Fictionary

Vacuum: A U-tube with a flask at one end

Taiga Lake: Taiga, a Russian word meaning virgin -- hence a lake created spontaneously and one which man had nothing to do with

William C. Kelly
Editor

Department of Geology and Mineralogy
The University of Michigan
Ann Arbor, Michigan

GEOCHEMISTRY

A Translation of

ГЕОХИМИЯ

CONTENTS OF FORTHCOMING ISSUE

No. 2, 1962

Published by

The Geochemical Society

TRANSLATED AND PRODUCED BY *scripta technica, inc.*

1200 PAGES IN 1961 VOLUME

VOLUMES FOR 1956–1961 ARE AVAILABLE

FOR INFORMATION REGARDING SUBSCRIPTION TO GEOCHEMISTRY (ENGLISH TRANSLATION OF GEOKHIMIYA) AND FOR FREE SAMPLE COPY WRITE TO SCRIPTA TECHNICA, INC., 1000 VERMONT AVE., N.W., WASHINGTON 5, D.C.

SOME OF THE PAPERS SOON TO BE PUBLISHED IN

GEOCHIMICA ET COSMOCHIMICA ACTA

JOURNAL OF THE GEOCHEMICAL SOCIETY

December 1962

J. D. Godfrey: The deuterium content of hydrous minerals from the East-Central Sierra Nevada and Yosemite National Park

H. J. Lippolt and W. Gentner: Argonbestimmungen an Kalium-Mineralien X Versuche der Kalium-Argon-Datierung von Fossilien

G. H. Riley and W. Compston: Theoretical and technical aspects of Rb-Sr geochronology

A. P. Vinogradov and A. I. Tugarinov: Problems of geochronology of the Pre-Cambrian in eastern Asia

E. R. Segnit, H. D. Holland and C. J. Biscardi: The solubility of calcite in aqueous solutions-I The solubility of calcite in water between 75° and 200° at CO_2 pressures up to 60 atm.

F. Leutwein and L. Weise: Hydrogeochemische Untersuchungen an Erzgebirgischen Gruben-und Oberflächenwässern

J. R. Butler and A. J. Thompson: Different values for caesium in G-I

H. J. Svec, G. D. Flesch and J. Capellen: The absolute abundance of the chromium isotopes in some secondary minerals

Geochemical Note:

P. G. Jeffery: The fluorine content of some standard samples

* * * * * *

January 1963

W. H. Durum and J. Haffty: Implications of the minor element content of some major streams of the world

T. Kirsten, D. Krankowsky and J. Zahringer: Edelgas-und Kalium-Bestimmungen an einer grösseren Zahl von Steinmeteoriten

R. N. Clayton and T. K. Mayeda: The use of bromine pentafluoride in the extraction of oxygen from oxides and silicates for isotopic analysis

G. W. Putman and C. W. Burnham: Trace elements in igneous rocks, Northwestern and Central Arizona

R. F. Sippel: Sodium self diffusion in natural minerals

Are you interested in becoming a subscriber to this important scientific research journal? Would you like to receive a specimen copy of the journal for inspection? If so, please write to the Manager, Subscription Department, Pergamon Press, Headington Hill Hall, Oxford, or 122, East 55th Street, New York 22, N. Y., whichever is the more convenient.