Ogallala Ash Outcrop in Ellis County

Volcanic-ash deposits in western Oklahoma can be divided into two age groups. The older ash, in the Ogallala Formation, forms accumulations up to 18 feet thick and usually grades downward to bentonitic clay at the base. The age of the Ogallala in the Great Plains region ranges from about 16–17 m.y. to about 5 m.y. The photograph shows an outcrop of fresh Ogallala ash south of Lake Lloyd Vincent in Ellis County (sec. 23, T. 18 N., R. 26 W.).

The younger volcanic-ash beds of the Pearlette family belong to three different zones ranging in age from 0.6 m.y. to 1.9 m.y. The Pearlette ash, unlike the Ogallala, is characterized by lack of any distinct alteration trends. The inset shows a scanning electron micrograph of glassy shards from an outcrop in Custer County (sec. 27, T. 15 N., R. 16 W.). The sources of ash have most likely been volcanoes in the Valle Grande region of the Jemez Mountains in New Mexico, the Yellowstone National Park region, and the Crater Lake region in Oregon.

Volcanic ash is mined for use in swimming-pool filters, polishing materials, soil conditioning compounds, scouring soaps, oil-well drilling muds, fire-proofing and water-proofing materials, fire-clay applications, rubber products, water softening, insulation, and crop dusting. The material is valued for its ability to absorb grease and wastes and is also used in the paint industry.

—Salman Bloch

(SEM micrograph by Rhesa Bloodworth, Hazen Research, Inc.)
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Harrison Attends Resource–Appraisal Meeting

William E. Harrison, Oklahoma Geological Survey petroleum geologist and geochemist, attended a resource-appraisal meeting called by the U.S. Geological Survey June 16 and 17 at the Denver Federal Center. The purpose of the conference was to gather data for updating estimates of recoverable resources of petroleum and natural gas in the United States. Harrison provided assessments on undiscovered petroleum resources in Oklahoma.

For purposes of this study, the United States was divided into 132 geologic provinces by the federal survey. Oklahoma contains five of these provinces—the Anadarko Basin, the Ardmore Basin, the Arkoma Basin, the Cherokee Platform, and the Nemaha Ridge. Harrison gave detailed comments on various aspects of exploration efforts in these Oklahoma provinces.

Evaluations are now being made on the basis of information about reservoir quality, source-rock quality and temperature history, and the potential of remaining undrilled (untested) areas of each of the provinces. Information collected will provide the basis for a revised version of USGS Circular 725, Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States, issued in 1975.

Oklahoma Receives Federal Mining Grant

Secretary of the Interior Cecil D. Andrus has announced that Oklahoma will receive a $379,478 grant under the Surface Mining Control and Reclamation Act. The grant, administered by the U.S. Department of the Interior’s Office of Surface Mining, will be used by the State to cover costs of Oklahoma’s initial program to regulate surface coal mining and reduce potential harmful effects to the environment.

The new funds will enable the State to cover salary and fringe benefits for 16 current State employees, as well as to provide funding for travel, equipment, and the technical and legal consultant services necessary to carry out requirements of the regulatory program.

Oklahoma’s coal industry produced 4,787,942 tons of bituminous coal during 1979.
New Director to Oversee School’s Five-Year Plan

The University of Oklahoma announced recently that Dr. John S. Wickham has been appointed director of the School of Geology and Geophysics. As director, Wickham will begin implementing a “five-year plan” designed to assure the school of a top position in teaching and research.

Through the new five-year plan, which was recently endorsed by OU President William S. Banowsky and the OU Board of Regents, the University has committed itself to essentially doubling the size of the faculty in order to have strong academic programs in five areas. Emphasis will be placed on petroleum geology, petrology and geochemistry, stratigraphy and paleontology, solid-earth geophysics and tectonics, and exploration geophysics.

"The School will have 12 full-time faculty members this fall, and four more will have been added by the fall semester of 1981 to bring the total to 16," Wickham said. "The University will then add two positions each year until the total has reached 26."

The recently created Monnett Professorship (endowed at $750,000 through alumni contributions) will be filled this fall by David Stearns, whose specialties are structural geology and petroleum geology.

Two other endowments of $300,000 each have created the Klabzuba and Schultz Professorships which, for the next few years, will bring distinguished visiting scientists to campus. This fall, Norman Domenico, consulting geophysicist with Amoco Research Lab in Tulsa, and next fall, Bill Galloway, who has done research in clastic depositional environments, will be teaching classes.

Wickham believes that the School will continue to provide a firm educational background that will allow its graduates to make important contributions to the energy industry. And he believes that, in a large way, this will be possible through the efforts of the alumni of the school.

"Alumni support has been outstanding in the past, Dr. Charles Mankin [former director of the school and current director of both the Oklahoma Geological Survey and the Energy Resources Center] organized an alumni advisory council in the 1960's and it has continued to be very active.
Through this council, the alumni have given financial and moral support as well as some excellent advice.

Since the nation's attention has been focused in recent years on the energy needs of the country, the school has seen an increase in enrollments, Wickham said. Figures show approximately 350 undergraduate and 60 graduate students in geology and geophysics at OU.

Wickham noted that increases in enrollments began shortly after the Arab oil embargo in 1973, and have been on the rise since.

The increasing enrollments have placed an added burden on Gould Hall, the already crowded building housing both the school and the Oklahoma Geological Survey. Both groups, however, are scheduled to benefit from a recently approved plan to direct $3 million toward the renovation of the building, Wickham said.

"The planning and design phase of the operation will take place this fiscal year, and we hope to begin construction in the following fiscal year. We will add air conditioning to the building and update the heating system, as well as do some desperately needed work on research and teaching labs and classrooms."

Wickham said attention would also be given to the exterior of the building, which now has a large expanse of glass that has been painted silver to help the un-airconditioned building remain as cool as possible during the scorching Oklahoma summers.

When the building was designed, he said, the glass was to be covered with large louvers that would be closed in the summer to keep out unwanted solar heating and opened in the winter to take advantage of the warming sunshine. Architects are currently working to update and improve this system to see if it would be feasible for future installation.

Wickham, who will see the school through the upcoming refurbishing of both building and program, came to OU as an assistant professor in 1969 after receiving his Ph.D. from Johns Hopkins. He had completed his undergraduate work at Pomona College, in southern California, in 1960 before beginning a four-year tour of duty in the Coast Guard. In 1975, he took a leave of absence from the University to work for Continental Oil Co. as a consultant in the Houston Division.

His work has included field and theoretical studies on structural problems in the Ouachita Mountains and the Southern Oklahoma Aulacogen. He has also worked on development of computer applications for lab research in structural geology, and computer models for rock deformation. Most recently, he has been involved with fracturing as it affects porosity, permeability, and migration of hydrocarbons.

The school is beginning the decade with a new director, a new five-year plan, proposed building modifications, and continued support from the alumni. The spirit is upbeat, and the outlook is bright.

—Connie Smith
AGI Issues New Glossary

"From A to Z, it's all here." So states the advertisement for the American Geological Institute's new, revised edition of the *Glossary of Geology*. What is all here, from "aa" to "zygous basal plate," is an alphabetized list of 36,000 geological terms, complete with definitions, cross references, synonymy, some historical background, some bibliographic citations, some etymology, expansion of sometimes puzzling abbreviations or acronyms into understandable words, and phonetic pronunciation guides for foreign-language terms. There is also a listing of some 2,000 references from which the bibliographic citations were drawn. One hundred fifty geoscientists contributed to the accuracy of the information contained.

The science grows, expands into new areas, intensifies in established fields; and specialties become more specialized. The literature expands accordingly. The addition of 3,000 terms to AGI's 1972 *Glossary* and redefinition of some terms was needed, and AGI has done a good job in this second edition.

The first AGI geological dictionary, *Glossary of Geology and Related Sciences*, was published in 1957, seven years after The American Association of Petroleum Geologists considered such a project and rejected it, suggesting that it might be a good undertaking for the newly formed American Geological Institute. A new edition, with a 4,000-entry supplement, was released in 1960. Each re-issue has been an improvement on the preceding version, and the 1980 edition is no exception.

The volume is printed in easy-to-read Century Schoolbook type on non-glare, cream-toned paper. Entries are boldface, as in the first edition, but definitions are indented a space, so that terms described stand out and are easier to spot. Each letter of the alphabet has its own introduction of an artistic photo of geological, paleontological, or geomorphic interest. The Wedgewood-blue jacket has a graphic, organic spiral that starts from a thin thread that vanishes in a 4.5-billion-year past.

Editors of the new edition of the *Glossary* are Robert L. Bates, professor emeritus of Ohio State University, and Julia A. Jackson, an editor with AGI.

Most of us recognize Bob Bates as the writer of the clever, occasionally embarrassing "geologic column" on the antepenultimate page of *Geotimes*, which is the page many readers of AGI's monthly periodical turn to first. The tenor of his column indicates that he is a stickler, and that is surely a prerequisite for a good lexicographer. But he is also the author of many scientific papers and a textbook on industrial rocks and minerals and has served as editor for the *Journal of Geological Education, The Professional Geologist*, and AIME's fourth edition of *Industrial Minerals and Rocks*. He is a distinguished member of the National Association of Geology Teachers, an honorary member and nominee for president-elect of the Association of Earth Science Editors, and a member of The American Association of Pe-
Emre Sancaktar Named to OGS Staff

Emre Ayse Sancaktar has recently joined the OGS staff as the newest member of the analytical-chemistry section. Along with her regular lab duties, she will be assisting petroleum geologist William E. Harrison in a regional study of the Woodford Shale in western Oklahoma. The two main objectives of this project are a temperature history and a determination of the hydrocarbon source-rock potential in that area.

Emre comes to the Survey from Bogazici University, Istanbul, Turkey, where she was an instructor in the chemistry department. Prior to that, she had spent three years as a teaching and research assistant in the chemistry department of Virginia Polytechnic Institute and State University at Blacksburg, Virginia, and had also taught at Robert College, Istanbul.

Her list of publications includes "Adsorption-Desorption of Water on Poly (ethylene terephthalate)" and "A Study of the Chemistry of Lithiotriphenyolphosphineacetylmethylene."

Emre and her husband, Selim, who teaches in OU’s School of Mechanical and Nuclear Engineering, live in Norman.
Energy-Research Exchange Agreement
Signed with West Berlin University

University of Oklahoma Provost J. R. Morris and OU Energy Resources Center (ERC) director Charles J. Mankin have recently signed an energy-research exchange agreement with the Technical University of West Berlin. The agreement involves all OU departments engaged in energy-related research. Mankin, of course, is well known in his capacity as director of the Oklahoma Geological Survey.

"The Technical University of West Berlin is far advanced in coal research. Its scientists feel they can help us in that area, and we can help them in enhanced oil recovery and other areas related to petroleum recovery and exploration," Jo Wilke, ERC director of special programs, said.

"Student exchanges will be made on the basis of a semester, and equivalent credit will be given."

Much energy-related research at OU is coordinated by the ERC as well as by the OGS. The center was established in 1978 to sponsor faculty and staff efforts to develop energy knowledge, provide government and industry with statistics and study results, and create and direct new energy-related research.

Johnson Receives Achievement Award

Kenneth S. Johnson, associate director of the Oklahoma Geological Survey, has been named recipient of a distinguished-achievement award granted annually to a leading earth scientist of the Rocky Mountain–Great Plains states by the Rocky Mountain Federation (RMF) of the American Federation of Mineralogical Societies. The award was presented at the annual RMF banquet held June 7 in Topeka, Kansas.

Johnson was selected for the honor in recognition of "his many published studies on the geology, mineral resources, and environmental geology of Oklahoma, and because of his teaching activities at The University of Oklahoma and his service to the gem and mineral societies of Oklahoma and to the public."

As recipient of the award, Johnson was authorized to designate a graduate student in earth science to receive a 2-year RMF scholarship in the amount of $1,000 per year. As his choice he has named Janina Bloch, Ph.D. candidate in the School of Geology and Geophysics at The University of Oklahoma, stating, "Ms. Bloch is an exceptionally well-qualified graduate student. She has maintained a 3.8 grade-point average, and as a graduate assistant she has instructed laboratory sections in mineralogy and petrology and has instructed lecture sections in sedimentary petrography."
Man and the Biosphere

Published as part of the Man and the Biosphere Program (MAB), which is "an inter-governmental effort to focus research, public education, and technical training" on environmental problems facing today's world, this book outlines the physical characteristics, scientific-research potential, and modifications made by man on 27 existing U.S. Biosphere Reserves.

The excellent photography and the use of a number of tables add to the readability of this publication. The MAB program is being supervised by UNESCO General Conference representatives from 30 nations.


Problems of Petroleum Migration

Thirteen authors present their differing views on the process of petroleum migration in this 274-page large-format publication. The book is a collection of papers from the Symposium on Petroleum Migration that was a part of the 1978 Annual AAPG meeting held in Oklahoma City.

Order from: AAPG, P.O. Box 979, Tulsa, Oklahoma 74101. Price: AAPG-SEPM members, $15; others, $18.

Stratigraphic Traps in Carbonate Rocks

A collection of 10 papers from AAPG Bulletins (1960-75) and Memoirs (14 and 24), this publication has been compiled by S. J. Mazzullo to help geologists understand carbonate facies in exploration. The book contains a bibliography and an extensive table of selected carbonate stratigraphic traps.

Order from: AAPG, P.O. Box 979, Tulsa, Oklahoma 74101. Price: AAPG-SEPM members, $6; others, $7.

U.S. Geological Survey Open-File Reports

U.S. Geological Survey Open-File Report 80-50, dealing with the water table in the High Plains aquifer in 1978 in parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, has recently been issued. The material is by E. D. Gutentag and J. B. Weeks, and consists of one oversized sheet, scale 1:2,500,000.

AAPG

Mid-Continent Group to Examine Energy Exploration in the 80's

“Mid-Continent Energy Exploration in the 1980's” will be the central theme for the Mid-Continent Section of The American Association of Petroleum Geologists' biennial meeting scheduled for September 20, 21, and 22, 1981, at the Sheraton Century Center Hotel in Oklahoma City. James W. Cammack will serve as convention chairman.

Program co-chairmen Kenneth S. Johnson and Douglas J. Seyler are asking that abstracts for papers be submitted before December 1, 1980. They are requesting papers dealing with general geology and geophysics of the Midcontinent, potential new hydrocarbon objectives in the Midcontinent, innovations in exploration and production practices, and nonpetroleum energy exploration.

Those interested in submitting abstracts should contact Johnson in advance for a copy of the style sheet for authors. His address is on the front cover.

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