


# 1999
# Newsletter
## The University of Texas at Austin
## Department of Geological Sciences

**Mark Cloos, Chairman**
Department of Geological Sciences

**William L. Fisher, Director**
Geology Foundation

**Mary Koch**
Managing Editor

**Margaret L. Evans**
Layout and Design

Photos by Joseph Jaworski

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**This Page:**

**Old fence showing cedar posts exhumed by Hurricane Carla waves at Gulf Beach, Port Aransas, September 1961, after burial by dunes for unknown period of time but possibly 60 to 70 years. There was no trace of wire or staples on the fence posts.**

**Photo provided by Ernest L. Lundelius.**


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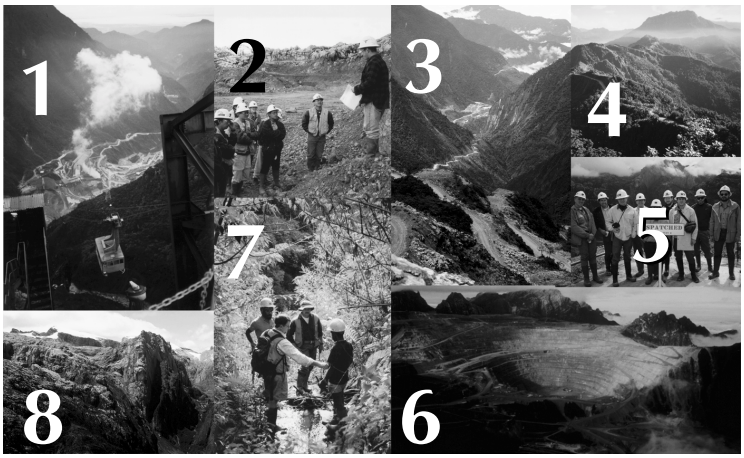
**Cover:**
See related story inside.




**(1).** An aerial tramway takes workers from the mill area at a 10,000-foot elevation to the Ertsberg office complex next to the Ertsberg pit at 12,000 feet. Photo provided by Mark Cloos.

**(2).** Roy Luck (right) leads field trip in 1998 for PT Freeport Indonesia geologists at the Lime Quarry, the site of some of his M.S. thesis work. Photo provided by Mark Cloos.

**(3).** View looking south near the top of the Heavy Equipment Access Trail (HEAT Road) at 13,000-foot elevation with Ridge Camp barracks and workshops in the distance at 7,000-foot elevation. This road provides direct vehicle access to the Grasberg Mine. Benyamin Sapiie mapped every structural feature along this winding road as part of his dissertation studies. Photo provided by Mark Cloos.

**(4).** The access road to the Ertsberg mining district. This spectacular road, an engineering marvel, was carved into the mountainside in 1969. Widening of the road in the early 1990's provided fresh outcrops that were the basis of detailed stratigraphic and structural analysis by Andrew Quarles van Ufford and Benyamin Sapiie. The foreground roadcuts are lower Paleozoic strata. The top right peak is Zaagham Mountain, underlain by Mesozoic clastics. The top left ridge is underlain by Cenozoic limestone and capped with the glacial ice at a 15,000-foot elevation. Photo provided by Mark Cloos.

**(5).** The UT Ertsberg team arrives at overlook for Grasberg Mine. (Front row from left to right) Eric James, Benyamin Sapiie, Paul Warren. (Top row from left to right) Andrew Quarles van Ufford, Mark Cloos, Rich Weiland, Eric Beam, Tim McMahon, and Todd Housh. Photo provided by Mark Cloos.

**(6).** The Grasberg open pit in March, 1999, located at a 14,000-foot elevation in the highlands of Irian Jaya, Indonesia (west New Guinea). The Grasberg orebody, discovered by Freeport McMoRan, Inc. exploration geologists in 1988, contains the world's third largest reserves of copper and largest proven reserves of gold. Open pit mining, now producing nearly 10 percent of the world's new copper supply, will continue well into the next century, when decades of underground block cave mining will then begin. Photo provided by Steve Van Nort.

**(7).** Rich Weiland (bottom left), Benyamin Sapiie (upper right), and two Irianese field assistants discuss trail conditions. Photo provided by Mark Cloos.

**(8).** View looking northeast from the Grasberg Mine toward the Meren Valley fault zone in Cenozoic limestones. The Carstenz glaciers, located at 3°S, cap the ridges. Photo provided by Mark Cloos.

# Table of Contents

# A Letter from the Chairman

Each year the *Newsletter* chronicles the history of the Department of Geological Sciences and reports news from alumni and the Geology Foundation. This year, our articles highlight the Lundelius Symposium on Quaternary Vertebrate Paleontology and a symposium jointly sponsored with the College of Natural Sciences on Global and Environmental Change. These events, centered on an invited group of distinguished guest speakers, involved most of the students and faculty in the Department as well as many members of other units on campus.

Our feature article concerns the Ertsberg Project, a unique industry-academia cooperative endeavor that since 1989 has greatly enriched the geoscience careers of several faculty, including myself, funded the studies of more than a dozen graduate students, and provided practical employment for dozens of undergraduates. We are most fortunate to have the visionary James R. Moffett as an alumnus heading an outward-looking company such as Freeport McMoRan, Inc. Applied and academic geoscience research can be done together, with great benefits for all.

Student and faculty awards continue to be numerous. Major awards went to Dan Barker and Bill Muehlberger. Professor Barker received the 1999 College of Natural Sciences Teaching Excellence Award in recognition of his 36-year career of quality teaching. He retires at the end of the year to focus on research. Emeritus Professor Muehlberger received a Best Paper Award from the Geological Society of America for the recently published *Tectonic Map of North America,* a monumental project that took more than a decade of effort and involved collaboration with hundreds of geoscientists.

Glenn and Martha Vargas have ended their 24 years of coming from California to teach faceting labs in the Gem and Gem Minerals Course taught by Earl Ingerson, Ed Jonas, and now Mark Helper. They have provided hands-on lab instruction to more than 2,000 nonmajors—an experience none of them will forget. The Vargases have been great friends of the Department, and their visits will be missed.

We are saddened by the passing of Professor Samuel P. Ellison. Sam was a 31-year member of the faculty who made a lasting impact. He spear-headed the formation of the Geology Foundation, was a 10-year Chairman of the Department, supervised dozens of graduate students, and taught undergraduate geology to thousands of students over the years. We also lost Karl Hoops, who worked for the Department as an analytical chemist for 22 years. His careful work impacted the studies of dozens of faculty and students.

To our knowledge, we maintain the largest enrollments of both undergraduate majors (177) and graduate students (140) of any geoscience department in the United States. This past year more than 2,500 students were enrolled in our geoscience courses designed for non-majors. These courses, a combination of formal lecture by a faculty member and lab exercises guided by graduate students working as teaching assistants, attract some of our majors, but each is really designed to forever open the eyes of students to the workings of science and the wonders of the planet on which they live. Leon Long, Doug Smith, Sharon Mosher, Brenda Kirkland George, Gary Kocurek, Randy Marrett, Tim Rowe, Jay Banner, Chris Bell, Earle McBride, Jay Famiglietti, Jim Sprinkle, Jack Sharp, and the 50 graduate student Teaching Assistants (TAs) who assisted them are to be commended for their exemplary efforts during this and past years.

The graduate program retains prominence in topical breadth. This point was again well exemplified by the 1999 *U.S. News and World Report* rankings of graduate Ph.D. programs, which placed us #11 for overall reputation. In four of six subdisciplines, we were ranked in the top 10: sedimentology/stratigraphy (#1), hydrogeology (#6), tectonics/structure (#6), and paleontology (#9).

We continue to be one of the flagships for geoscience education in the world. This *Newsletter* documents many of our activities during this past year that have been supported by you through the Geology Foundation. It was another good year. We appreciate your support, encouragement, and understanding. Enjoy the *Newsletter.*

*Mark Cloos*

P.S. To check on programs, talks, and other events in the Department, see our Web site at www.geo.utexas.edu.

# Faculty and Staff Listing

## Professors, Associate Professors, Assistant Professors, and Lecturers

**Jay L. Banner**
Associate Professor and Dave P. Carlton Centennial Fellow in Geology

**Daniel S. Barker**
Professor, The Fred M. Bullard Professor in Geological Sciences, and The Third Mr. and Mrs. Charles E. Yager Professor

**Christopher J. Bell**
Assistant Professor and John A. Wilson Fellow in Vertebrate Paleontology

**Philip C. Bennett**
Associate Professor and John A. and Katherine G. Jackson Centennial Teaching Fellow in Geological Sciences

**Robert E. Boyer**
Professor and Peter T. Flawn Centennial Chair in Geology

**Richard T. Buffler**
Professor and Senior Research Scientist, Institute for Geophysics

**William D. Carlson**
Professor and William Stamps Farish Chair in Geology

**Mark P. Cloos**
Professor, Getty Oil Company Centennial Chair in Geological Sciences, and Chairman, Department of Geological Sciences

**James N. Connelly**
Assistant Professor and Elf Aquitaine Petroleum Faculty Fellow in Geological Sciences

**Ian W. D. Dalziel**
Professor and Senior Research Scientist, Institute for Geophysics

**James S. (Jay) Famiglietti**
Assistant Professor and Bill R. Payne Centennial Teaching Fellow

**William L. Fisher**
Professor, Leonidas T. Barrow Centennial Chair in Mineral Resources, Director, Geology Foundation, and Director Ad Interim, Bureau of Economic Geology

**William E. Galloway**
Professor and Morgan J. Davis Centennial Professor in Petroleum Geology

**Brenda Kirkland George**
Assistant Professor and William T. Stokes Centennial Teaching Fellow in Geological Sciences

**Stephen P. Grand**
Associate Professor and Dave P. Carlton Centennial Fellow in Geology

**Bob A. Hardage**
Senior Lecturer, Leslie Bowling Professor, and Senior Research Scientist, Bureau of Economic Geology

**Mark A. Helper**
Lecturer

**Gary A. Kocurek**
Professor and John E. "Brick" Elliott Centennial Endowed Professor in Geological Sciences

**J. Richard Kyle**
Professor and The Third Mr. and Mrs. Charles E. Yager Professor

**Leon E. Long**
Professor and The Second Mr. and Mrs. Charles E. Yager Professor

**F. Jerry Lucia**
Senior Lecturer and Senior Research Fellow, Bureau of Economic Geology

**Randall A. Marrett**
Assistant Professor and Joyce Bowman Payne Centennial Teaching Fellow

**Earle F. McBride**
Professor and J. Nalle Gregory Chair in Sedimentary Geology

**Sharon Mosher**
Professor and Wilton E. Scott Centennial Professor

**Yosio Nakamura**
Professor and Senior Research Scientist, Institute for Geophysics

**Timothy B. Rowe**
Professor and J. Nalle Gregory Regents Professor in Geological Sciences

**John M. (Jack) Sharp, Jr.**
Professor and Chevron Centennial Professor in Geology

**Douglas Smith**
Professor, Albert W. and Alice M. Weeks Centennial Professor in Geological Sciences, and Dave P. Carlton Centennial Fellow in Geology

**James T. Sprinkle**
Professor and The First Mr. and Mrs. Charles E. Yager Professor

**Libby A. Stern**
Assistant Professor

**Paul L. Stoffa**
Professor, Shell Companies Foundation Centennial Chair in Geophysics, and Director, Institute for Geophysics

**Noel Tyler**
Professor

**Willem C. J. van Rensburg**
Professor and J. H. Herring Centennial Professor in Petroleum Engineering

**Clark R. Wilson**
Professor and Wallace E. Pratt Professor in Geophysics

# Professors Emeriti

**Milo M. Backus**
Professor and Shell Companies Foundation Distinguished Chair Emeritus in Geophysics

**Leonard F. Brown, Jr.**

**Stephen E. Clabaugh**
Fred M. Bullard Professor Emeritus in Geological Sciences

**Peter T. Flawn**
Leonidas T. Barrow Chair Emeritus in Mineral Resources and President Emeritus

**Robert L. Folk**
Dave P. Carlton Centennial Professor Emeritus in Geology

**Claude W. Horton**

**Edward C. Jonas**

**Lynton S. Land**
Edwin Allday Centennial Chair Emeritus in Subsurface Geology

**Wann Langston, Jr.**
The First Mr. and Mrs. Charles E. Yager Professor Emeritus

**Ernest L. Lundelius, Jr.**
John A. Wilson Professor Emeritus in Vertebrate Paleontology

**Arthur E. Maxwell**

**John C. Maxwell**
William Stamps Farish Chair Emeritus in Geology

**William R. Muehlberger**
Peter T. Flawn Centennial Chair Emeritus in Geology

**Amos Salvador**
Morgan J. Davis Centennial Professor Emeritus in Petroleum Geology

**John A. Wilson**

**Keith Young**
J. Nalle Gregory Professor Emeritus in Sedimentary Geology

# Research Scientists

**Kurt L. Bartelmehs**
Research Associate and Coordinator of Computational Resources

**Matthew W. Colbert**
Research Scientist Associate III

**Wulf A. Gose**
Research Scientist and Senior Lecturer

**Todd B. Housh**
Research Associate

**Eric W. James**
Research Scientist Associate V

**Richard A. Ketcham**
Research Associate

**F. Leo Lynch, III**
Research Associate

**Lawrence E. Mack**
Research Scientist Assistant

**Fred W. McDowell**
Research Scientist and Senior Lecturer

**Kitty L. Milliken**
Lecturer and Research Associate

**Julia W. Stowell**
Research Associate

# Visiting Scholars

**Oscar A. Alcober**
University of San Juan, Argentina, and Museo de Ciencias Naturales

**Huan Zhang Lu**
University of Quebec

# Technical Staff

**Jeffrey S. Horowitz**
Computer Illustrator

**Joseph Jaworski**
Photographer II

**Kathryn A. Manser**
Research Scientist Associate I

**Larry D. Reep**
Scientific Instrument Maker II

**Hugh W. Stimson**
Technical Staff Assistant V

**Gregory L. Thompson**
Technical Staff Assistant III

**Dennis R. Trombatore**
Librarian, Walter Geology Library

**Cassia H. Wolfson**
Research Scientist Associate II

# Administrative Staff

**Julie A. Buchanan**
Administrative Assistant

**Arturo Gutierrez, Jr.**
Administrative Associate

**Betty J. Kurtz**
Administrative Assistant

**Miriam L. Pashby**
Administrative Assistant

**John R. Ready**
Senior Procurement Officer

**Debra Sue Trinque**
Accounting Technician

**Renee A. Waters**
Student Development Specialist III

**William I. Woods**
Executive Assistant

# Geology Foundation

**Mary E. Koch**
Senior Administrative Associate

# Faculty Personal Notes

**Dan Barker** taught Earth Materials in the fall semester and Volcanology in the spring. Last July, he and Rosemary went to Cape Town, South Africa, for the International Volcanological Congress. They enjoyed field trips along the Lebombo monocline in eastern South Africa, to granites along the southwest coast, and to Mesozoic-Cenozoic volcanic rocks in Namibia. All involved good company, strange vegetation and wildlife, and even some strange rocks much to Dan's liking. In October, the Geological Society of America lured them to Toronto; attractions included seeing old friends and going on a field trip in the Haliburton-Bancroft area (with fall foliage at its peak, and more strange rocks).

In April, Dan was honored by being selected to receive the College of Natural Sciences Teaching Excellence Award in Geological Sciences. Because he had long ago vowed to do teaching and research until he could get one of them right, he decided this was a good time to retire. He and Rosemary look forward to travel (two scientific meetings in France in September). There is also that pile of uncompleted research and, even more challenging, an office that has not been cleaned out since it was first occupied 32 years ago.

**Dick Buffler's** main research interests still involve the study of ocean basins and adjacent margins using geological and geophysical tools, mainly the application of sequence stratigraphy. However, he is slowly migrating back to doing more studies on land. He now is working on the interpretation of seismic data collected over the offshore part of the Chicxulub KT impact crater along the north coast of Yucatan, Mexico. These data reveal new details about the structure and stratigraphy of the crater. The first results were published in *Nature* (December 4, 1997), and more papers are in the works. Dick is also working with Bill Galloway on a major industry-funded project to synthesize the Cenozoic depositional history of the entire Gulf of Mexico Basin. They have just completed the first 3-year phase of the project, and it has been extended for another 2 years. Dick currently has a Ph.D. student, Qunling Liu, finishing his dissertation on the late Cenozoic sequence stratigraphy and history of the northeastern Gulf. He also has three students working on field projects: one (Juan Bermudez, Ph.D.) is working on the sequence stratigraphy of Upper Cretaceous rocks in the Parras Basin, northeastern Mexico, and two Master's students (Laura Faulkenberry and Joy Griffin) are studying rift sedimentation and tectonics in southwestern New Mexico. Another exciting project is the study of late Cenozoic rift sedimentation, volcanism, and tectonics in the southern Red Sea-northern Danakil region of Eritrea, Africa. Here Dick is working with colleague Bob Walter (Royal Ontario Museum, Toronto) on developing a geologic framework for early hominid migration and evolution. They spent one and a half months in the field this past winter, despite the flaring up of hostilities along the border between Eritrea and Ethiopia. The project is funded by the National Science Foundation. A geologist from Eritrea (Berhane Negassi) will attend UT starting this fall in the Master's program, and he will help with working up the data collected. Dick continues to commute between Austin and Berkeley, where his wife Pat has a faculty position at UC Berkeley School of Public Health.

**Bill Fisher** continues to enjoy his new career of full-time teaching, research, and graduate student supervision. His students are involved in a range of research, working from reservoir- to basinwide-scale in four different continents. Bill continues to give a number of outside invited lectures each year and continues to work with such outside groups as the Gas Research Institute, the National Petroleum Council, the National Research Council, and the National Academy of Engineering. During the year, he chaired the Department's Exploration Geophysics Search Committee. Bill also directs the Geology Foundation and enjoys working with that marvelous institution and its distinguished Advisory Council. In June 1999, at the request of the university administration, he took on the additional task of serving as Director Ad Interim of the Bureau of Economic Geology. He will serve until a new Director is named, probably by the end of the year.

After stepping down as Interim President in 1998, **Peter T. Flawn** returned to his previous activities involving service on boards, commissions, committees, and consulting. Currently, he serves as Chairman of the Board of Southwest Research Institute in San Antonio. He is a member of The University Development Board and serves on a number of University Advisory Councils, including the College of Natural Sciences, Marine Science Institute, McDonald Observatory, Geology Foundation, and University of Texas Press. As a consultant to the O'Donnell Foundation, he is involved with the construction of the new Applied Computational and Engineering Sciences building.

**Robert L. Folk's** battle with biologists still goes on, with respect to the nannobacteria idea. By now, a few other microbiologists around the world have convinced themselves that there exist, in fact, quasi-living organisms in the 0.1 micron range. They have made chemical analyses showing that they consist of C, N, and O (= organic matter), have cultured them, and have gotten positive DNA evidence, so there is no doubt that there is some form of life (no matter what name one wants to use) in the nannometer size range between viruses and bacteria. Yet, opposition is still formidable. In October 1998, the National Academy of Sciences in Washington held a meeting of eminent biologists who once again erected a Maginot Line of 0.2 microns as the "lower boundary of life," which has been biodogma for a century. New facts attacking old wineskins! At UT, we now have a viable crew working on the problem, with varying degrees of conversion to the "pro-life" cause. F. Leo Lynch and Bob have been working since 1995 on Bahamian oolitic sediments and Italian clays, both of which have extraordinary nannobacteria-like textures. Brenda Kirkland George and Bob McLean (Microbiology Professor, Southwest Texas State University at San Marcos) went with Bob to Viterbo last summer and got acculturated to boondocks Italy. They did professional microbiologically-kosher sampling, as opposed to his random snatching of encrusted coke cans. Later, Jenna Zampino Rodell joined Bob to work at Viterbo. Thanks to Jenna's nose, they were able to locate a hidden ancient sulfurous spring, used by local washer-wimmen near Campobasso, Molise. Ian Molineux, UT biologist, is directing the lab experiments and attempts to culture nannos.

The Folk team gave a poster session on nannobacteria-like carbon balls in carbonaceous meteorites at Toronto GSA and on nannobacterial weathering of igneous rocks in Providence, Rhode Island, regional GSA. Marge went with Bob both times, and they both enjoyed Toronto, Niagara Falls, Providence (especially the Italian Quarter of Federal Hill), and Newport. A book entitled *Dark Life* has been published by Michael Ray Taylor (1999), which gives a 90-percent-correct-version of the discovery of nannobacteria on earth (Viterbo) and its contagious expansion to the idea of extraterrestrial life, scientific politics, and the many potential medical applications.

This June, the BBC made a documentary of Brenda's student Courtney Turich and Bob as they worked at the Viterbo hot springs, and as they evaluated the Martian connection. Wait until you see where Bob arranged for them to stay in Viterbo: the Albergo Roma, at $15 a night. In July, Marge and Bob finally took a vacation—a riverboat trip from St. Petersburg to Moscow, then to Bucharest to see the total solar eclipse.

The Department's last link with clay mineralogy and shale petrology will disappear as the invaluable F. Leo Lynch leaves for a teaching job at Mississippi State (finally!).

**Bill Galloway** was able to use project funds to buy research leave for the spring 1999 semester and devoted full time to this and related research and writing projects. The results have been presented at several meetings, including the 1999 AAPG/SEPM meeting in San Antonio. This has been an exciting hands-on research project for Bill with Patricia Ganey-Curry, Dick Buffler, and Xiang Li carried out through the Institute for Geophysics.

The Gulf of Mexico Basin Depositional Synthesis (UT-GBDS for short) project successfully completed its 3-year phase I in August. The combination of late additions and ongoing enthusiasm of most participating companies led to initiation of phase II, which will continue through 2000.

Ongoing student projects for Bill include initiation of studies by new Ph.D. students focused on the Miocene depositional history of the central Gulf of Mexico and the late Quaternary history of the Brazos River. The geologic framework for these studies grew partly out of the results of the GBDS synthesis. Ongoing student projects include combined well and 3-D seismic characterization of Miocene strata of the southwest Louisiana inner shelf and Frio depositional history in the Burgos Basin, Mexico.

As Technical Program Chairman for the 1999 AAPG/SEPM, Bill was personally gratified with the success of the meeting despite the uncertainty of the geoscience profession. Of a special interest was the inaugural session for a thematic program built around depositional systems. The inaugural session began with talks by Bill Fisher, Frank Brown, and Al Scott, in which each presented his own personal perspective on the development, evolution, and future of the "depositional system" paradigm. It was great fun for many to see all three together again. Besides the San Antonio meeting, Galloway also attended invited research conferences

on deep-water reservoirs in Trondheim, Norway, and the Guadalupe Mountains of West Texas.

Bill's own research includes ongoing GBDS synthesis and database expansion. He is participating in the development of a relational database and synthesis of "deep water sand bodies," in cooperation with the Energy and Geosciences Institute at the University of Utah. In addition, ongoing work into depositional architecture and development of shallow marine erosion surfaces continues using well, 2-D, and 3-D seismic data from the North Sea basin.

**Steve Grand** had a very busy year. During the fall, he taught exploration geophysics for the first time and also was the chairman of the seismology section for the fall American Geophysical Union meeting in December. There were over 700 abstracts submitted last year to the fall meeting, and this was the first time Steve had to read every one of them. Upon returning from the AGU meeting, Steve left for Japan in late December for a 3-month stint as a visiting professor at the Earthquake Research Institute in Tokyo. While there, he gave weekly seminars to graduate students on seismic waveforms and was invited to present a paper at an international workshop on "Super Plumes" as well as a visit to the International Institute of Seismology and Earthquake Engineering in Tsukuba. At ERI, Steve collaborated with Hitoshi Kawakatsu and Yoshio Fukao, two of Japan's leading global seismologists, on projects related to imaging the interior of planet Earth. While Tokyo was fascinating, Steve never quite got used to raw fish and returned home about 15 pounds lighter than when he left. Back in Texas, Steve remained busy with an invited talk at the University of Oregon and a trip to England in July to give an invited talk at the IUGG conference. He also began work on a field project with graduate student Eric Matzel. This project will place 65 seismometers in a linear array from West Texas across the Rio Grande Rift and into the Colorado Plateau in order to image the lithosphere and asthenosphere in unprecedented detail beneath this tectonically interesting region. After freezing for 3 months in Tokyo, it was quite a change to be digging seismic vaults in Socorro in 103°F temperatures. The seismic deployment began in late June and will continue through the following 14 months.

**Rich Kyle** reports a productive and rewarding year of teaching and research. He taught the under-graduate course on Texas geology and mineral resources and the graduate economic geology course during the fall semester. Spring semester provided an atypical teaching challenge when Rich volunteered to teach the undergraduate petroleum geology course while Bill Galloway was on research leave. Nick Lemon of the University of Adelaide's Centre for Petroleum Geology and Geophysics visited in April. Rich took Nick on a tour of some Gulf Coast salt domes—notably Winnfield in northern Louisiana—to return Nick's courtesy of having shown him the fossil salt diapirs of South Australia last summer. The teaching highlight of the year was the Regional Studies in Mineral Resources Geology course, which culminated in a 3-week trip to northern Chile. (See the separate article on GEO 381R Field Excursion to the Central Andes.) Rich, Bill Chavez of New Mexico Tech, and Erich Petersen of the University of Utah organized this trip, which provided an exceptional educational opportunity for six UT graduate students. Rich and his graduate students continue to conduct research on diverse topics within the broad field of economic geology. Mark Ulrich is finishing a Master's project on the Winnfield cap rock, and Jeff Harrison is completing his Master's thesis on alteration and mineralization of the Grasberg porphyry Cu-Au deposit. Asif Muzaffar is starting a project on the Davis Hill dome in coastal Texas, while Jim Corboy is planning a project on carbonate-hosted mineralization in Peru. Rich is spending the summer finishing some manuscripts, including one on the origin of the calcite-sulfur-barite deposits of the Delaware Basin that formed through the interaction of meteoric water, basinal formation waters, petroleum, and bacteria.

Linda's fitness and health articles are continuing to be published in North America, Europe, Africa, Asia, and Australia. Brett advances to the 11th grade at Connally High School, while Brock prepares for his second year at UT. Brock is the creator of Everymac.com and has designed Web pages for Rich's courses.

In the fall semester, **Leon Long** taught the graduate course in isotope geology and the large-enrollment introductory course (GEO 303) with Doug Smith, who had been a team partner many times before. For the spring offering of GEO 303, Leon teamed with Libby Stern, who has just arrived in the Department. This year, he had an especially good class for the field course taught during Intersession. These students are well motivated and filled with enthusiasm for doing geology, even though none of them are majoring in the subject. He continues to be the Department's undergraduate advisor, and in that role, he counsels yet other

enthusiastic students who want to make the right decision as they contemplate a major in geology. Working with his committee, Leon authorizes tens of thousands of Geology Foundation scholarship dollars every year to be awarded to worthy undergraduates. Last fall, he gave a poster session at the Toronto Geological Society of America meeting and was busy preparing manuscripts for publication. During the past year, his really big push, however, was a massive rewrite of *Geology*, the introductory textbook, which now will be combined with the lab manual into one volume. Leon is both his own author and artist, doing computer graphics. This was a sustained around-the-clock effort resulting in a huge sleep deficit! Leon is very pleased to have been inducted into UT's Academy of Distinguished Teachers this year.

**Randy Marrett** taught Field Camp last summer, as has become his custom. He had an asymmetric teaching load for the 1998-1999 academic year, freeing him from teaching in the fall. During the spring, he taught Physical Geology and his graduate course on Brittle Structure. This was the third time he's taught Brittle Structure, and the enrollment has doubled each time, reaching 26 this past year. This pattern can't continue!

During the fall last year, Randy was honored to give the keynote address at the first ever National Meeting of Earth Sciences in Mexico. He also made a presentation at a symposium in Pacific Grove, California, to define New Directions for U.S. Rock Mechanics, sponsored by the American Rock Mechanics Association. At the fall AGU meeting, he presented a talk on extension rates in the region of the Yucca Mountain proposed nuclear waste repository, and coauthored another presentation on faulting and landslides in the Central Andes. For the spring AAPG meeting, he co-led a field trip to the Sierra Madre Oriental in Mexico, along with former UT faculty member James Lee Wilson, former UT grad students Mario Aranda and Rion Camerlo, as well as Bill Ward and James Jones. In the spring, he also attended the third once-per-decade Thrust Tectonics meeting at Royal Holloway University in London, where he coauthored posters on fold development in two areas of Mexico with Mario Aranda and Rion Camerlo.

Field work over the past year included the Yucca Mountain area of southern Nevada and two trips to the Sierra Madre Oriental fold-thrust belt of Mexico. One of the latter trips focused on salient development in Mexico. He hopes to finish field work for this project during the coming summer. The other campaign of field work in Mexico initiated studies on fractured carbonate reservoirs with grad students Orlando Ortega and Faustino Monroy and post-doc Julia Stowell. Javier Moros is nearing completion of his Master's thesis on aperture systematics along extension fractures, and Laura Rico is likewise finishing her thesis on detachment folding in the Sierra Madre Oriental. During the past year, Mario Aranda and Rion Camerlo finished their theses on detachment folding in the Monterrey Salient and growth strata on contractional folds in the southern Gulf of Mexico, respectively.

In the fall semester, **Earle McBride** taught his graduate sandstone petrology course plus the Introduction to Oceanography course that had previously been taught by Lynton Land. He and Lynton introduced the Oceanography course about 20 years ago. Students now expect to find a complete set of course notes and old exams on a Web site specific to a given course. Spring courses taught included Sedimentary Rocks, team-taught with Brenda Kirkland George, and Introductory Field Methods, team-taught with Mark Helper. In addition to five Saturdays in the field, Mark and Earle took the field methods group to the Marathon Uplift over a weekend. Dr. Antar Abdel-Wahab, a long-time collaborator from Egypt, joined Earle in attending the AAPG-SEPM meeting in April in San Antonio, Texas, where both gave presentations. Earle was awarded the Houston Oil and Minerals Faculty Excellence Award in May. The departmental award in part was in recognition of 4 years' service as the Graduate Advisor to the department's ~160 graduate students.

Earle started the summer by team-teaching 2 weeks of GEO 660, the summer field course. The first 2 weeks of the course have typically been devoted to sedimentary geology projects in the Guadalupe Mountains, Sacramento Mountains, and Ghost Ranch area (all in New Mexico), and Durango, Colorado. After the field course, Earle (and Donna) went to Italy to collect samples, data, and his thoughts. He is finishing up his study of honeycombed weathering along the Tuscan coast and the origin of elongate calcite-cemented concretions in Tuscany and Sardinia. Part of the time was spent conferring with collaborators in Modena. After returning to Texas, Earle and graduate student Aysen Ozkan went to the field in Wyoming and Montana to sample the Flathead Quartzite for a petrographic-diagenetic study by Aysen. Earle, Kitty Milliken, and Antar Abdel-Wahab recently

completed their study of the diagenetic history of the Cambrian Hickory Sandstone in the Llano region, and the Flathead study will provide another case study of a Cambrian cratonic sandstone. One problem to solve is the question: If these sandstones are so old, how come they are still so porous that you can blow through them? Earle also had time to collect beach and river sands on Hawaii with Duke Picard. They are trying to quantify the length of time it takes for basalt sand grains to become rounded by abrasion in the beach.

**Kitty Milliken** continues to work with a variety of projects in the microbeam laboratories, advising both students and faculty on imaging and analysis problems. This past year, Kitty oversaw the acquisition of a digital microscope camera that gives the Department the option of collecting light microscopy data in the same high-resolution formats they have been enjoying for images on the SEM and microprobe. Kitty's research continues to be focused on the trace-element chemistry of authigenic carbonates and also on the application of cathodoluminescence for examining the interrelationships between deformation and cementation in sandstones. An interesting new research focus arose this year, serendipitously, when the Department took advantage of an opportunity to acquire a high-resolution real-time 3-D microscope. The possible applications of this new instrument are still being explored, but a utility for examining bacterial structures (normal-sized ones!) is apparent. Kitty reports that Steve continues to enjoy his work with the Railroad Commission of Texas and that Katy is now nearly the same size as her mom and no longer rollerskates down the fourth floor hallway.

**Sharon Mosher** had a very fulfilling year teaching, supervising graduate students, and working in the Precambrian basement of Texas. Her major synthesis paper on the tectonic evolution of the southern margin of Laurentia came out in the fall, and other Texas basement papers are on the way. She and her students spent most of the year testing her proposed tectonic models and exploring more of the Llano Uplift of Central Texas. Two of her Ph.D. students, Rob Reed and Steve Grimes, finished this summer, and a Master's student, Justin Zumbro, will finish this fall. Teaching involved Earth, Wind & Fire, a very fun course to teach, and her graduate Advanced Structural Geology course. She really enjoys teaching both and especially likes the opportunity to get to know freshmen and new graduate students. Outside service on review panels and national committees continued, with a major effort put into the Geological Society of America's Annual Program Committee as Chair. The new Annual Meeting program structure inaugurates this fall in Denver, Colorado, and a new Field Forum program for Penrose-type field conferences starts in 2000, both of which were major accomplishments of her committee. Her daughters are growing up—Sarah (15) and Lisa (12) keep life interesting and give mom lots of driving practice!

The big event of this year for **Bill Muehlberger** was receiving the Best Paper Award from the Structure/Tectonics Division of the Geological Society of America at its annual meeting in Toronto last October. It was given for the *Tectonic Map of North America* that you all have read about for the many years it took to be completed.

Working on tectonic modules for astronaut training by using photographs taken from the Space Shuttle or by our astronauts aboard the Russian Space Station *Mir* continues for Bill. Arabian Plate tectonics are available to them and hopefully will appear on the EOL web link from Johnson Space Center in the near future. Bill is now working on the Indian Plate crash, which involves most of Asia! It will take time.

This summer, Bill took the new astronaut class (the 17th!) on their geological field trip to northern New Mexico. A geophysical day has been added to acquaint them with the utility of geophysics for investigating the subsurface (something they will be doing when they return to the Moon or go on to Mars). The day project was initiated and successfully integrated into the trip by Pat Dickerson (UT Geology B.A., 1970, Ph.D., 1995). They work in conjunction with New Mexico Bureau of Mines staff who have been carefully mapping the Taos region in an attempt to understand the location and quantity of groundwater in that region. Their gravity profiles contribute to locating buried faults under the alluvial fan cover and have helped in resolving several geological/hydrological dilemmas.

Sally and Bill have been doing as much traveling as possible: China last fall, AAPG in San Antonio, their 50th college reunions (required two trips to California because Scripps and Caltech scheduled them weeks apart!), Paris (with their 11-year-old granddaughter who wanted to see

Monet's gardens!), Port Ludlow, Washington (on Olympic Peninsula side of Puget Sound for family reunion and celebration of their 50th wedding anniversary), Russia, and Finland in late August—early September (to continue the celebration!).

For the second consecutive year, **Tim Rowe** and a crew of students went into the field on the Colorado Plateau of northern Arizona, to hunt for vertebrate fossils. Accompanying them was Dr. Oscar Alcober, a postdoctoral fellow from the University Natural History Museum of San Juan, Argentina. They were also joined by two graduate students and a staff member from Harvard University, and UT's Dr. Chris Bell came in for a week to help out as well. The crew spent 7 weeks camping in the high desert of the Navajo Indian Reservation, where they were looking for primitive dinosaurs and other extinct vertebrates in the Lower Jurassic Kayenta Formation. They also worked with the Navajo Nation Ecoscouts program, an educational organization aimed at training young students growing up on the Plateau in the natural history and ecology of the region.

The previous summer, Rowe's crew had prospected the rugged cliffs of the Little Colorado River valley and discovered several tantalizing sites but didn't have time to explore them fully. This year, they went back to excavate the sites and to see what they had found. One of these sites contained several partial intertwined dinosaur skeletons, representing at least two different species. The site was extremely difficult to work, being an hour's walk from camp, so all the water and plaster had to be carried in, and the bones were carried out on their backs. But in the end the crew returned to UT with some significant fossils that are now being prepared at the Vertebrate Paleontology Lab.

Back on campus, Tim's work on CT scanning fossils continued in the new High Resolution X-ray CT Facility. In its two years of operation, visitors from all over the world have brought their finest and most interesting specimens to UT to be scanned in this one-of-a-kind facility. To help this effort along, the National Science Foundation provided a $500,000 grant to develop an Internet-based digital library of vertebrate morphology. The grant will start up this summer, and it will help to bring more important and spectacular fossils to UT to be scanned and studied. It will also help to train more geology students in the latest digital tools for studying geology and paleontology.

Tim also began his new duties as Director of the Vertebrate Paleontology Lab, taking over for Professor Ernest Lundelius, Jr., who retired last August. Rowe's first official activity at VPL was to organize an open house as part of the Lundelius Symposium on Quaternary Paleontology, which was held in honor of Dr. Lundelius' long and productive career. With a new paint job and major building repairs now completed, VPL hosted paleontologists from around the world who came to pay their respects and participate in the symposium. During the academic year, Tim also taught his undergraduate vertebrate paleontology course and several other classes. During the Thanksgiving break he took the vertebrate paleontology class to Big Bend National Park to hunt for Cretaceous vertebrate fossils. This summer, Tim and his students spent another season hunting fossil vertebrates in the Mesozoic.

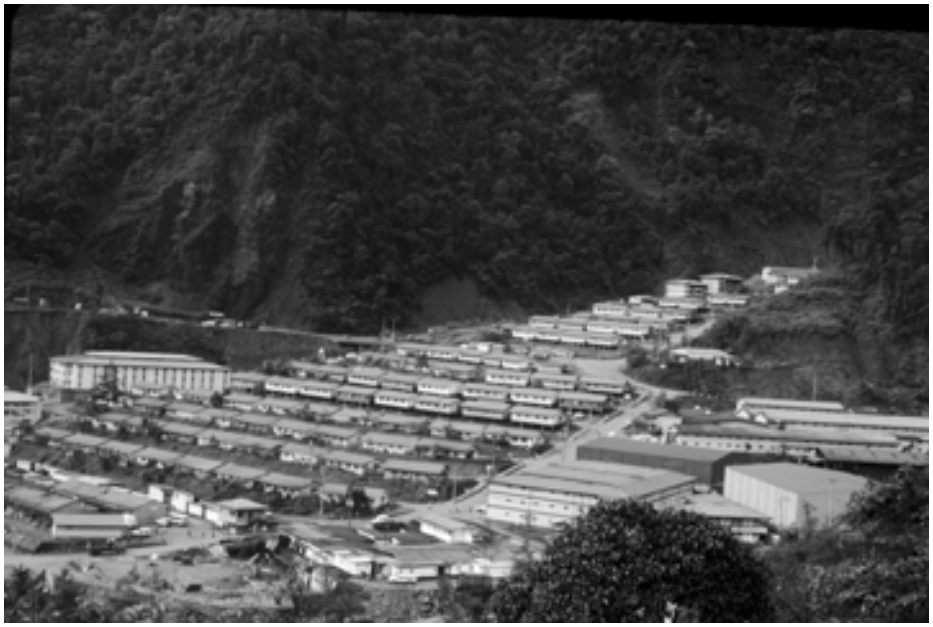
**Amos Salvador** continues to work on two main areas: stratigraphy and the estimation of the consumption and possible sources of supply of energy during the 21st century. In stratigraphy, work continued in coordinating the efforts of a working group attempting to clearly define some of the concepts and terminology of sequence stratigraphy. In the energy project, he completed during the last year the study of the supply potential of "conventional" natural gas and is now working on "unconventional" sources of gas: coalbed methane, "tight sands," black shales, hydrates, and geopressured gas reservoirs.

**Doug Smith** has been continuing his professional and personal involvement in the Colorado Plateau and adjoining regions. Together with friends and relatives, he enjoyed a raft trip through the Grand Canyon. He has also managed to spend the last several summers in Durango, Colorado, at the very edge of the Plateau country. Of course, that location has brought many opportunities to collect volcanic rocks, xenoliths, and even the odd sedimentary rock or two. The rocks are being studied to build a story about the evolution of the American Southwest, from the basement up.

# The Ertsberg Project: 1989-1999

## Freeport-McMoRan and The University of Texas at Austin

*by Mark Cloos*



*Tembagapura, Indonesian, for "copper town," is nestled in a valley located at an elevation of 7,000 feet on the southern flank of the Central Range of New Guinea. Nearly 17,000 employees of PT Freeport Indonesia live in this community. UT students and faculty lived in an apartment in this town when doing field work in the mining district. Photo provided by Mark Cloos.*

In this era of shrinking government support of academic research, it has often been said that industry and academia should be able to find new ways to work together. In the geosciences and at UT, a unique program began in 1989 involving a long-term corporate vision of what can be accomplished jointly to enhance the education of students and faculty at a university and applied scientists in a company while generating a fountain of published scientific knowledge for the benefit of all.

Near glaciated peaks in the remote mountains of Irian Jaya, Indonesia, (west part of the island of New Guinea), geologists of Freeport-McMoRan discovered the billion-ton-plus Grasberg copper-gold orebody in early 1988. This gigantic deposit was found near the middle of the Ertsberg Mining District, only 2 km from the Ertsberg mine. The district had been in production for nearly 20 years, and the end of mining of known ore deposits was in sight. Sale of the mining rights was considered before the new Freeport-McMoRan CEO James R. Moffett ordered a renewed exploration effort. The discovery of the Grasberg orebody and the recognition that it was not just a significant deposit, but a world-class orebody that dwarfed the reserves in the original deposit for which the district is named, immediately led to many questions.

How could the geologic clues of the existence of Grasberg be so few? Why are the original ore deposits of the Ertsberg district high-temperature skarns along the margin of a large, essentially barren igneous intrusion, but the Grasberg orebody is localized within the center of a small igneous intrusion? Why do the limestone wall rocks surrounding the Grasberg show so little evidence of heating, let alone economic mineralization in the neighborhood? How were the Ertsberg and Grasberg igneous complexes related? What were the geologic factors that controlled the localization of high-grade hydrothermal mineralization in skarn or intrusion? A long-standing academic question was, why are there igneous intrusions in the middle of a mountain belt generated by an arc-continent collision—a tectonic setting which seemingly should inhibit the generation and rise of magmas? Obviously, the company wanted to know if there were something unique about the Grasberg that would preclude the existence of another one somewhere in the region. Scientific questions such as these and a special connection brought Freeport-McMoRan Copper and Gold (FM), its Indonesian mining subsidiary PT Freeport Indonesia (PTFI), and the Department of Geological Sciences at The University of Texas at Austin (UT) together in a long-term partnership unique to the geosciences and perhaps all of science

## The Connection

The UT-FM connection began in 1961, when James R. Moffett received his B.S. degree with honors from our Department. He is an alumnus who considers the technical training he received at UT as the foundation for his numerous accomplishments in exploration and business. But the tie goes far beyond simply receiving a degree. He did field work and wrote an undergraduate honors thesis that addressed an academic research question. Moffett studied the pattern of jointing in outcrops of the Red Mountain Gneiss near Llano, Texas. This academic study was supervised


Indonesian islands: **a**=Ambon, **b**=Buru, **f**=Flores, **h**=Halmahera, **s**=Sumba, **t**=Timor, **w**=Sumbawa, **u**=Aru
Other countries shown: **A**=Australia, **B**=Brunei, **M**=Malaysia, **P**=Philippines, **PNG**=Papua New Guinea, **T**=Thailand

by then Assistant Professor Robert E. Boyer. Moffett's work and that of a fellow student resulted in a research paper published in the *Texas Journal of Science* that was co-authored with Dr. Boyer. The formal publication of undergraduate geoscience research was exceptional in 1961 and remains uncommon today.

In the fall of 1988, following the discovery of the Grasberg orebody, CEO Moffett brought his former teacher, Professor Boyer (then Dean of the UT College of Natural Sciences) over to Irian Jaya to visit the Ertsberg District. During the visit, Moffett asked Boyer if he thought students and faculty from UT would be interested in doing geologic research in the mining district. With the renewed exploration efforts of the company and the infrastructure of the mining district, a logistical base existed for field studies in a geologically exciting but very remote part of the world.

Upon Boyer's return, he asked if I were interested in working there, as I was the only other faculty member in our Department who had ever been to New Guinea. By coincidence, I had visited mainland Papua New Guinea (PNG) for nearly three weeks in the summer of 1988 as part of a United Nations-sponsored, National Science Foundation-funded field conference to examine the collision zone geology of the Papuan highlands. I thought that this trip, organized by Eli Silver at the University of California at Santa Cruz, would be a once-in-a-lifetime experience.

Over Christmas and early spring semester, Professor J. R. Kyle and I did the appropriate library research and wrote an NSF-style proposal for a 3-year research grant from FM. We outlined a broad range of projects for which we thought we had the technical expertise to undertake. Without visiting the site, we envisioned that our studies would largely be Master's theses on structural geology, sedimentology, igneous petrology, and ore deposits, with our own work providing linkage. The original plan was that the Master's theses would

*Rich Weiland (left) and Mark Cloos (right) inspecting river float during regional reconnaissance in the highlands of Irian Jaya in 1995. Photo provided by Mark Cloos.*

be based upon field work completed during a single visit to Irian Jaya.

## UT Project Startup in 1989

Over spring break 1989, Kyle and I visited the Ertsberg district to assess logistics and identify projects for students. After spending less than 1 day with Chief Geologist, Dave Potter, we knew why the geology of the district was still poorly known. The extremely rugged topography, with tundra starting at 3 to 4 km elevations and thick jungle below, daily rain (totaling more than 450 inches per year at the base of the mountain), and the cold climate make field work slow and tedious, with safety being a major concern. Freeport had done much work on the applied geology of the ore-bearing skarns, but from the perspective of regional geology, the 1939 paper by J. J. Dozy, the Dutch geologist who discovered the Ertsberg in 1936, remained a benchmark.

As nearly every facet of the regional geology was uncertain, we decided that it was unlikely that quality Master's projects could be completed in single visits. We changed the plan so that the first wave of UT students would make multiple visits as Ph.D. aspirants with the goal of developing a broad and integrated foundation of knowledge. With an initial grant of $1,000,000, we began to advertise this opportunity. Not surprisingly, there was no shortage of interested students, and the first field team began work in July, 1989.

For the first years of the project, almost all of our studies were within the 100 $km^2$ (25,000 acre) Contract of Work (COW) of the Ertsberg District and along the Timika-Tembagapura-Mill access road. We had an apartment in Tembagapura and ate breakfast and dinner in one of the company mess halls. Little overnight camping was done. Every day, each person or group ventured off to the location of their work, often assisted by one or two of the many Irianese who work for the PTFI geology department. These assistants became trusted friends.

*Roy Luck (left), Chief Geologist Al Edwards (center), and Cori Lambert (right) view the Grasberg open pit in 1998. Photo provided by Mark Cloos.*

## UT Regional Studies Begin in 1993

Since 1993, our field studies have expanded into the other parts of the highlands of Irian Jaya for which PTFI had obtained mineral exploration rights. During this work, we traveled on the coattails of the PTFI regional exploration program. Their work was the basis for the selection of small areas for detailed field studies.

PTFI geologists involved in the regional exploration program are regularly hoisted into and out of the jungle from a hovering helicopter, a procedure that minimizes, if not eliminates, an environmental impact from exploration because trails or landing pads rarely need to be established. In the interest of safety, our detailed field work was restricted to areas where there are clearings for helicopter landings such as gravel bars along rivers or where temporary helipads had been constructed. The students working in remote areas required helicopter insertion and commonly lived in "fly-camps" with local Irianese assistants employed by PTFI. For safety, daily radio communication was maintained with PTFI base camps. (See accompanying article by Richard Weiland describing his experience doing field work in Irian Jaya.)

## Geologic Knowledge in 1999

Exploration and mine geologists, working under the direction of Chief Geologists Tom Collinson, Dave Mayes, Chuck Brannon, and Al Edwards, have now examined every accessible outcrop in the Ertsberg district. UT graduate Kris Hefton (B.S., Geology, 1978), was one of the leaders of the team of PTFI exploration geologists which also include J. Pennington, G. MacDonald, S. Sanusi, E. Suwardy, I. Tasiran, B. Trisetyo, A. Ono, L. Johnson, S.

*Mark Cloos (top left) and Sarah Penniston-Dorland (third, top left) with the Tembagapura corehouse crew in 1995. Photo provided by Mark Cloos.*

Widodo, and consultants, I. Kavalieris and C. Arnold. These geologists have mapped the district and examined hundreds of kilometers of drill core. This work has resulted in the production of a detailed and beautiful 1:10,000-scale geologic map and many cross sections of the Ertsberg District.

The PTFI regional exploration program has been directed by Steve Van Nort and Dave Potter. Dozens of geologists have worked in field teams directed by Gary Artmont, Peter Doyle, Wahyu Sunyoto, and Gary O'Connor, and they have identified dozens of mineral prospects. A major scientific outgrowth of this exploration comes from the work of Keith Parris, who has compiled six magnificent 1:250,000-scale geologic map sheets covering most of the highlands of Irian Jaya. To put this PTFI accomplishment into perspective requires knowledge of the situation before their exploration program began. The 1967 geologic map of the highlands of Irian Jaya was more than 90 percent blank. The first complete 1:1,000,000 geologic map of Irian Jaya was published in 1987, but almost all of the geology of the highlands was based upon satellite imagery interpretation, and there were many errors in identification. The PTFI mineral exploration program has created a set of maps comparable to in scale, but exceeding in detail, those published long ago by government agencies in the far more accessible highlands of Papua New Guinea.

## The UT Contribution

At this point in time, FM has provided over $2,000,000 to UT in direct support of a wide range of geo-science research. This money, from which university overhead is also paid, has supported the direct research costs of 13 graduate students: 5 dissertations completed, 4 Master's theses completed (2 more are almost completed), and 1 undergraduate honors thesis. In addition, partial support was provided for another dissertation. The student work has been outstanding. Five of the students, Tim McMahon, Heidi Mertig, Sarah Penniston-Dorland, Rich Weiland, and Roy Luck, won Technical Sessions Best Speaker Awards—special recognition from their fellow graduate students indeed. Besides graduate students, 3 faculty, 5 research scientists, and 2 postdoctoral fellows have also been supported. More than 25 undergraduate students have worked as lab assistants performing a wide variety of hands-on research-related tasks, giving them practical experience while they earn money to pay their tuition.

Topics of the UT work range from basic stratigraphy and sedimentation, structural analysis, paleontological analysis (some in conjunction with scientists at the Smithsonian Institution), genesis of the igneous rocks, and associated ore deposits. We have divided into two distinct but overlapping research groups: the Tectonics Program, which I supervise, and the Ore Deposits Program, which J. R. Kyle supervises. The tectonics research focuses on the regional questions concerning the origin of the mountain belt. The central theme of the tectonics program is what geological processes were active from scales of the thin section to the lithosphere during the arc-continent collision that formed the island of New Guinea over the past 20 million years.

Since the beginning, the expectation is that UT work is to be in the public domain. Besides theses and dissertations, our field work in Irian Jaya and our detailed and lab studies in Austin have so far resulted in the publication of 11 major research papers. Two more are in press, and four are in journal review. Draft manuscripts exist on more than 20 additional studies. The professional publications to date cover the mechanics of collisional mountain-building at subduction zones, the petrology of magmatic rocks in the Ertsberg district, paleontology, potassium-argon ages of the intrusions, the nature of skarn orebodies, fission track ages of uplift

*Benyamin Sapiie (left) and Mark Cloos (right) hook 'em at the Grasberg mine. The equatorial glaciers of New Guinea cap the limestone ridges in the background. Photo provided by Mark Cloos.*

and erosion of the toe of the mountain, and the recessional history of the equatorial glaciers. In addition, we have presented more than three dozen lectures at national meetings and invited talks at other universities.

## Mutual Benefits

The exploration and mine geology work of PTFI geologists is, of course, focused on the practical problem of discovering and developing orebodies. PTFI has a staff of approximately 70 mining and exploration geologists assisted by hundreds of support personnel. Because of an enlightened corporate policy, PTFI geologists have published not just their regional geological maps but also several scientific papers in journals.

Since initiation of the UT project, we have identified the research problems we can best address. The work of PTFI geologists has always been, of course, the starting point for selecting our study topics and field sites. We constantly consult with PTFI geologists to devise strategy as to how best to safely accomplish our goals. For most projects, we have collected the samples we analyze. For some of our work, PTFI exploration geologists have provided rock samples. Several of our projects have made extensive use of materials from the remarkable PTFI core and rock sample libraries.

UT students and faculty working on research projects that meet the standards of the technical literature require a long period of intensive laboratory work before results are apparent. In addition, the students have much classwork that must be completed for their degrees. At times when on-site, we are seemingly more a hindrance than a help to the geologic and administrative staff running a dynamic exploration program costing many tens of millions of dollars per year. So what were the benefits of having the UT team working in Irian Jaya?

First of all, the UT team brings a perspective on science that focuses on unraveling the details of formative geological processes. In some cases, we select small areas containing interesting features and dissect them in seemingly tedious academic detail. In others, we collect samples from a wide area for a detailed comparison and contrast. In the lab, we bring advanced technologies such as the scanning electron microscope, the microprobe, and mass spectrometers to detect and measure textural and chemical variations that are undetectable in the field and commonly unavailable from commercial laboratories. We fully document our findings in theses, dissertations, and publications. One of the students, Paul Warren (B.S. Geology, 1988), has been working for Freeport-McMoRan as an exploration geologist since finishing his Master's thesis in 1995. Paul, born and raised in Tyler, Texas, obviously enjoyed his experience doing field work in the jungle as part of the Ertsberg Project.

PTFI field geologists are working in a very isolated part of the world. We bring another set of eyes to examine the geology and act as a sounding board to help interpret geologic curiosities discovered on outcrop or in core. We constantly survey the academic literature on topics ranging from the trace element composition of zoned garnets in skarns to the megatectonics of the entire Pacific Ocean. We immediately integrate these results into our thinking and thus through our presentations and papers, knowledge from the recent literature is rapidly transferred to the PTFI geologists. We ensure some long-term continuity with detailed reports that meet the standards of the technical reviewers of theses, dissertations, and the professional literature. Moreover, our final works, while slowly produced compared to that of contract geologists hired to address specific problems, come with a consistent terminology and big-picture integration that will act as a solid foundation from which others can build.

Perhaps most significantly, when we are present in Irian Jaya, we interact on a day-to-day basis via informal discussions in the field, office, or cafeteria. Sometimes we lead field trips to the places we have worked. This often leads to lively discussions on the outcrop when different interpretations clash or some previously unrecognized feature is suddenly noticed. Toward the end of each visit to Irian Jaya, a semi-formal meeting that usually lasts a few hours is called for the PTFI geologic staff at which we present the results from our previous year's work and discuss the preliminary results from our just-completed field studies. Overall, our presentations are an on-site continuing education program, with many topics directly related in some way to day-to-day scientific or operational matters.

*Grasberg open pit in 1995. PT Freeport geologist, Art Ona (bottom left) and Bob Boyer (bottom right). Benyamin Sapiie (top left) and Sarah Penniston-Dorland (top right) sample veins and their alteration halos as part of Sarah's M.S. studies. Photo provided by Mark Cloos.*

More formal interactions occur several times a year when PTFI geologists visit Austin and we brief them on the status of our work with our latest diagrams and maps. In alternating years, we have had a 1- or 2-day meeting with a large group of PTFI geologists to formally brief them as to the results of our research.

## Industry and Academia

During the past decade, there has been much public discussion in the United States of how industry and academia must work together in both education and research. FM, under the guidance of CEO Moffett, has grabbed this bull by the horns. Not only has generous grant support been provided for a multitude of basic research projects, but the logistical support in one of the geologically most exciting and least studied places on Earth has enabled us to accomplish in a few years some field programs that normally would have taken decades to complete. A special value of steady, long-term support is that we are able to publish completed studies rather than the "progress reports" that so commonly result because of the necessity to publish incomplete work to ensure extension of grant support from government agencies. Finally, an added educational benefit for the UT students comes from the practical experience of interacting with seasoned professional geologists and engineers in one of the greatest mining centers on Earth.

PTFI has also supported a companion institution in Indonesia, the Institut Teknologi Bandung (ITB). One of our Ph.D. students, Benyamin Sapiie, was a junior faculty member at ITB before he joined our team. This fall he returns to ITB as a Professor. Benyamin completed an outstanding dissertation that will result in three major scientific papers. The amount of structural data he collected in this mining district exceeds that of any study in any other mining area. He discovered abundant evidence for strike-slip faulting in the district and demonstrated the critical role it plays in generating conduits for the intrusions and the localization of hydrothermal fluid flow and mineralization.

James R. Moffett and Freeport-McMoRan have set the global standard of a corporate vision of what a long-term industry-academia research and education partnership can become. The combined efforts of PTFI and UT geologists are well on the way to making the Ertsberg region the best characterized mining district on Earth. The combined efforts of the geologists working on the regional exploration program and our detailed lab-intensive geochemistry, geochronology, and paleontology studies will soon make the geologic wonders created by the most recent large arc-continent collision on Earth a matter of scientific knowledge for all.

More information about the Ertsberg District and its history can be found in:

Wilson, Forbes, 1981, *The Conquest of Copper Mountain*, 244 pp.

Mealey, George A., 1996, *Grasberg: Mining the Richest and Most Remote Deposit of Copper and Gold in the World, in the Mountains of Irian Jaya, Indonesia*, 384 pp.

Cloos, Mark, 1997, articles in the January, May, and September issues of *Geotimes*, published by the American Geological Institute.

The Freeport-McMoRan Copper and Gold Web page is located at www.fcx.com/.

## Theses and Dissertations Supported by Freeport-McMoRan, Inc., as part of the Ertsberg Project

Weiland, Richard J., 1993, Plio-Pleistocene Unroofing of the Irian Fold-and-Thrust Belt South of the Gunung Bijih (Ertsberg) Mining District, Irian Jaya, Indonesia: Apatite Fission-track Thermochronology: M.A. Thesis, 84 pp.

McMahon, Timothy P., 1994, Pliocene Intrusions in the Ertsberg (Gunung Bijih) Mining District, Irian Jaya, Indonesia: Petrography, Geochemistry, Tectonic Setting: Ph.D. Dissertation, 299 pp.

Gray, Amy E., 1995, Petrology of the Ruffaer Metamorphic Belt, Rotanbrug Map Sheet (1:125,000), Central Irian Jaya, Indonesia: B.S. Honors Thesis, 93 pp.

Mertig, Heidi J., 1995, Geology and Ore Formation of the Dom Copper Skarn Deposit, Ertsberg (Gunung Bijih) District, Irian Jaya, Indonesia: M.A. Thesis, 170 pp.

Warren, Paul Q., 1995, Petrology, Structure, and Tectonics of the Ruffaer Metamorphic Belt, West-Central Irian Jaya, Indonesia: M.A. Thesis, 339 pp.

Quarles van Ufford, Andrew I., 1996, Stratigraphy, Structural Geology, and Tectonics of a Young Forearc-Continent Collision, Western Central Range, Irian Jaya (Western New Guinea), Indonesia: Ph.D. Dissertation, 420 pp., 8 enclosures.

Rubin, Jeffrey N., 1996, Skarn Formation and Ore Deposition at the Gunung Bijih Timur (Ertsberg East) Complex, Irian Jaya, Indonesia: Ph.D. Dissertation, 311 pp.

Penniston-Dorland, Sarah C., 1997, Veins and Alteration Envelopes in the Grasberg Igneous Complex, Gunung Bijih (Ertsberg) District, Irian Jaya, Indonesia: M.S. Thesis, 402 pp.

Sapiie, Benyamin, 1998, Strike-Slip Faulting, Breccia Formation and Porphyry Cu-Au Mineralization in the Gunung Bijih (Ertsberg) Mining District, Irian Jaya, Indonesia: Ph.D. Dissertation, 304 pp., 4 plates.

Weiland, Richard J., 1999, Emplacement of the Irian Ophiolite and Unroofing of the Ruffaer Metamorphic Belt of Irian Jaya, Indonesia: Ph.D. Dissertation, 526 pp.

Luck, Roy B., 1999, Structural Geology of the Grasberg Lime Quarry and Amole Drift: Implications for Emplacement of the Grasberg Igneous Complex, Irian Jaya, Indonesia: M.S. Thesis, 290 pp, 2 plates.

Lambert, Cori A., 1999 (in progress), Structural Geology and Petrology of the Heavy Sulfide Zone in the Kucing Liar and Amole Drifts, South Grasberg Igneous Complex, Gunung Bijih (Ertsberg) Mining District, Irian Jaya, Indonesia, M.S. Thesis.

# Field Work in New Guinea as Part of the Ertsberg Project

*by Richard J. Weiland*

*Rich Weiland exits helicopter as supplies are unloaded for one of his field transects in the remote highlands of Irian Jaya. Rich completed both an M.A. thesis and a Ph.D. dissertation involving apatite fission track thermochronology and K-Ar dating of rocks from the highlands. Photo provided by Mark Cloos.*

For some, the mere mention of field work in New Guinea brings to mind dark, malaria-ridden rain forests, crocodile-infested rivers, swamps filled with leaches, "lost" tribes, headhunters, cannibals, cargo cults, and tribal warfare. Although this century's influx of missionaries has seemingly put an end to some cultural practices, not all highlands people have made contact with the outside world, as much of the rain forest is still nearly impenetrable. To this day, there are no roads that cross the central part of the island from north to south or east to west. Topographic maps of the Central Range are still very incomplete along the northern flank. Travel is primarily by small plane between missionary airstrips, then by boat or foot. Footpaths are much less developed than what most of us would consider a trail in a national park. That said, my 6 months of field work in Irian Jaya might be described as 6 months in the Garden of Eden!

My access into this remote part of the world was made possible by the P. T. Freeport Indonesia (PTFI) regional exploration program for Cu-Au deposits, which makes extensive use of helicopters. Daily field work was conducted out of fly camps. When field work was finished in one area, a helicopter was sent out to resupply the field party with food, move the fly camp to the next location, and take samples back to base camp. Daily contact with one of the PTFI base camps via short-wave radio was used as a safety check, to order supplies, and to schedule helicopter support for the next fly camp move. A typical field party included two Irianese field assistants, an Indonesian cook, and me. Local Irianese people were also hired, when present, to help set up camp, help collect samples, and work as guides. As one would expect, they are invaluable sources of information about the different areas visited.

Nearly all outcrops in the rain forests of New Guinea are found in rivers; thus, most days were spent cutting paths along the edge of rivers and wading across them. Vertical canyon walls, waterfalls, and rapids were common obstacles. Occasionally, log and vine bridges and ladders had to be built to cross intermediate-size rivers or to scale small cliffs. Due to the regional nature of my study, not a lot of time could be spent at any particular outcrop. We were constantly on the move in order to cover as much ground as possible. This aspect of the field work would have been severely limited had it not been for my field assistants' first-hand knowledge of the jungle and their physical strength.

Evenings were spent in the tent reading, taking notes, and listening to the sounds of the jungle, out of reach of the multitude of bugs attracted by the lantern and campfire. My field assistants and any local people would continue to eat, collect and prepare

*Obi Zangani, jungle expert, trail guide, interpreter, and Irianese friend assisted Rich Weiland during three field seasons in remote areas of Irian Jaya. Photo provided by Rich Weiland.*

*Typical jungle "fly camp" used by Rich Weiland during field work in the highlands of New Guinea. Tents are set up under a large tarpaulin that provides additional protection from the daily rain. Photo provided by Mark Cloos.*

*Dinner in a fly camp. (Left to right) Mark Cloos, Rich Weiland, Obi Zangani, and Benyamin Sapiie at the end of a long day. Photo provided by Mark Cloos.*

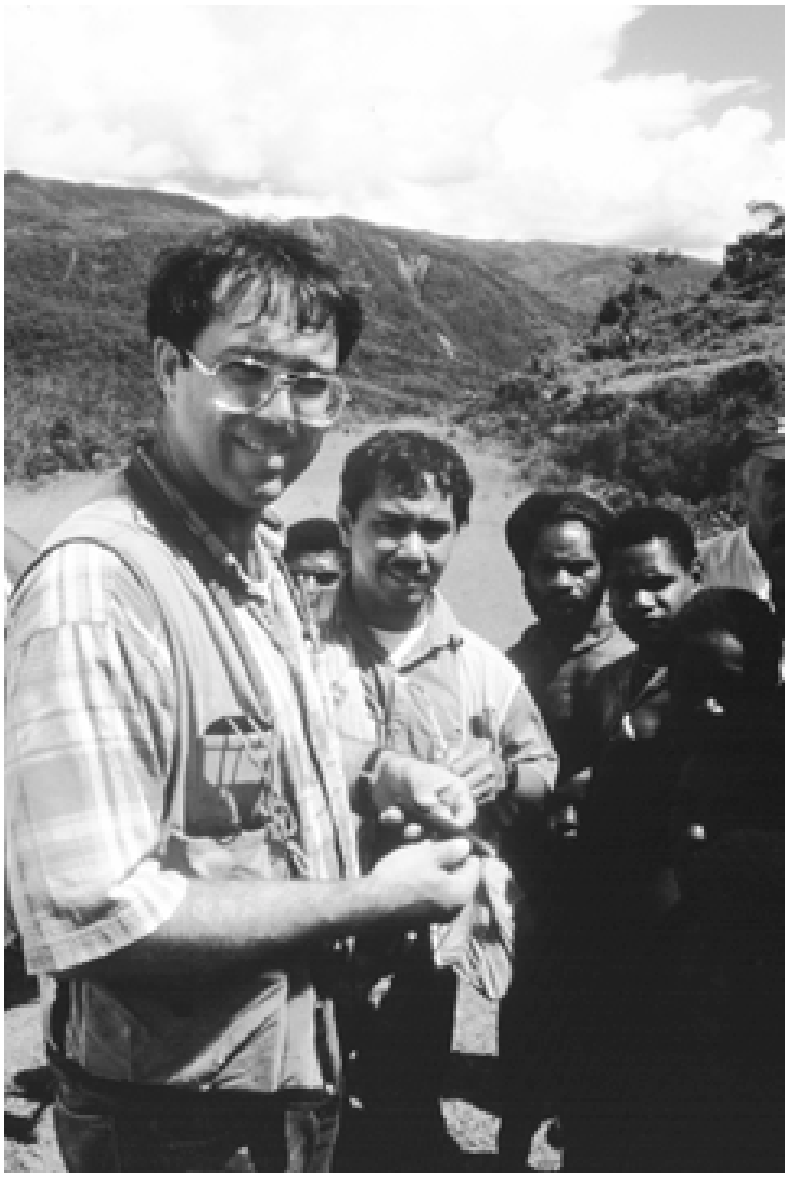
materials for bows and arrows, sharpen machetes, sing amazing harmonies, and smoke handmade cigarettes. I know this all sounds a bit melodramatic, but at times I truly felt like a turn-of-the-century Victorian explorer!

New Guinea is said to be the home of as many as one-fifth to one-half of the world's languages. During my three field seasons, communication with the Dani, Damal, Ekari, Moni, and Wolani peoples was essential. This would have been impossible without the assistance of one special field assistant, Obi Zagani. He also provided me with the proper etiquette in unfamiliar social settings. For example, arriving at one particular area, I stepped forward with an outstretched hand to greet the local chief standing at a distance but was stopped by Obi's arm across my chest. I was informed that it was wiser to wait for this chief to come greet us. Later that afternoon, it was explained that the Wolani people in this area had just made contact with the outside world only 9 months earlier and were a bit hesitant at first. We were welcomed after a minute or two of inspection and recognition of one of my Irian field assistants, Petrus Mote, by the local inhabitants. All went well, but this would not have been a good place to do field work without my Irian assistants. Upon arriving at most new sampling areas, we were typically greeted by many dozens of people who were just as curious about me as I was about them.

On the second or third night in most areas where I worked, the local chief would invariably start a conversation with me concerning the future and the well-being of his people. Four issues always came to the forefront: contact with the outside world (airstrip), health (hospitals), education (schools), and employment (mining). It was hard for them to comprehend that I was only a student, not a Freeport employee, and it was equally hard for me not to be concerned with their requests for things most of us consider essential elements of a modern life, not privileges. All I could promise was to relay their desires. Most of my interactions with the various local peoples were less grandiose but every bit as interesting. These included

greeting the local chief, asking for permission to work in the area, temporarily hiring local men, buying local produce, attending a vegetable bake, or inquiring about the location of the quarries where the prized blueschist tool blades are obtained. Obi, of course, was the center of all these interactions.

One of the more memorable episodes of this adventure was a week-long reconnaissance survey of the highlands by helicopter with Mark Cloos, Hugh Davies, Benyamin Sapiie, and Wahyu Sunyoto. During this week, we decided to find the blueschist stone tool quarries, which are so highly prized by the local peoples. First visited in 1962 by Heinrich Harrer of *Seven Years in Tibet* fame, the location of these quarries remained elusive due to the incomplete topographic mapping of the area, and the fact that rivers in the area were found to drain northeast, not northwest as indicated on the published maps. Finding these quarries required the combined efforts of my library research at The University of Texas at Austin, Wahyu's language and navigational skills, and the excellent flying skills of helicopter pilot Richard Alzetta. We hopped from village to village, asking the local people key words and phrases concerning the prized stone tools, which I had gleaned from the anthropological literature and locals during the previous field season. After two days' search, we landed on a ridge near the quarries. This was much more than adventure tourism. With the 500-plus samples we collected at these and other stops, I was able to delineate the distribution of amphibolite-, blueschist-, and eclogite-facies mafic rocks with respect to the Irian Ophiolite and thus place the source of these tools in a geological context. The distribution of these rocks, combined with the geochronology and geochemical data I obtained, became the focus of the first chapter in my dissertation.



*Mark Cloos (left) and PT Freeport Indonesia exploration geologist Wahyu Sunyoto (second to left) purchasing a stone chisel in Lumo village during the 1995 search for the location of blueschist tool quarries at Yeleme. Photo provided by Rich Weiland.*

Most geologists get into the field because of their love of the outdoors and the opportunity to work in exotic locations. I must say this has been an adventure that has forever changed my life.

# Lundelius Symposium on Quaternary Vertebrate Paleontology

*by Christopher Bell and Tim Rowe*

*(Left to right) Pamela Owen, Ernest Lundelius' last graduate student, Ernest Lundelius, and speaker Holmes Semken, Ernest Lundelius' first graduate student, University of Iowa.*

After 40 years as a professor of Geology and 12 years as Director of the Vertebrate Paleontology and Radiocarbon Laboratory, Dr. Ernest Lundelius, Jr., has retired. On August 31, 1998, Ernie handed off to his successors at The University of Texas at Austin the fruits of a wonderfully prolific and highly influential career, including one of the nation's finest programs in vertebrate paleontology and one of the world's largest collections of fossil vertebrates.

To honor Ernie's career and to celebrate his retirement, the Department sponsored the Lundelius Symposium on Quaternary Vertebrate Paleontology on November 13, 1998. This well-attended symposium featured presentations from 10 of the most distinguished Quaternary vertebrate paleontologists in the world. We were joined by Michael Archer (University of New South Wales, Australia), Tony Barnosky (University of California at Berkeley), Michael Collins (The University of Texas at Austin), Russell Graham (Denver Museum of Natural History), Elizabeth Hadly (Stanford University), Bruce MacFadden (Florida Museum of Natural History), Jim Mead (Northern Arizona University), Clayton Ray (U.S. National Museum of Natural History, Smithsonian Institute), Holmes Semken (University of Iowa), and David Steadman (Florida Museum of Natural History). Presentations addressed current topics in Quaternary vertebrate paleontology in North America and Australia and the significant and far-reaching contributions Ernie made to the field during his career.

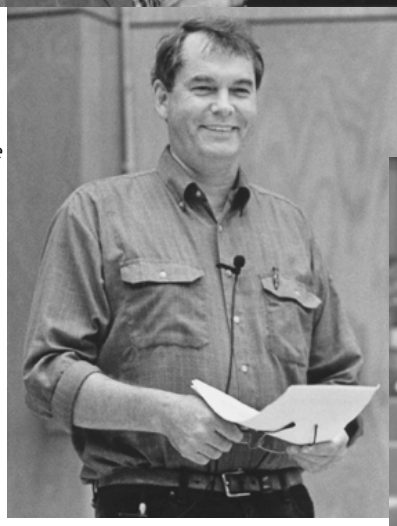
Dr. Russell Graham, a former Lundelius student, kicked off the symposium with his presentation, "Quaternary Vertebrate Paleoecology: the Lundelius Paleoenvironmental Hypervolume," in which he emphasized Ernie's focus on multi-dimensional analysis of fossil mammal faunas and recognized his many contributions to the field of Pleistocene paleoecology. Dr. Anthony Barnosky and Dr. Elizabeth Hadly presented results of their research on the effects of climatic change on mammalian communities through time, an area of long-term interest for Ernie. Hadly's presentation centered on Holocene montane mammal communities in the northern Rocky Mountains, while Barnosky emphasized similarities and differences in mammalian responses to climatic events at different time periods and time scales. Dr. Bruce MacFadden's presentation, "You Are What You Eat: Pleistocene Mammals and Stable Isotopes," centered on the burgeoning field of stable isotope paleoecology, a field stimulated by a prescient paper by Lynton Land, Ernie Lundelius, and Salvatore Valastro in 1980.

Dr. Jim Mead and Dr. Michael Archer presented findings from current research in Australia. Mead's discussion of Pleistocene lizards from southwestern caves in Australia was doubly significant: the localities discussed were in many cases originally excavated by Ernie and the presentation harkened back to Ernie's first paper (1957) on skeletal adaptations in lizards. Archer's presentation announced the discovery of a strange, new marsupial from the Pliocene of Queensland. In honor of Ernie's contributions to Australian vertebrate paleontology, this enigmatic little beast will bear the name *Numbigilgi ernielundeliusi;* a fitting tribute even if unpronounceable (Numbi = "little bandicoot," gilgi = "impostor," both words from the Gugu-Yalanji Aboriginal language).

Dr. Clayton Ray came out of his sheltered retirement to join us for the symposium and delighted the

(Above) (Left to right) John Wilson, former Professor, The University of Texas at Austin, and Speaker Clayton Ray, Smithsonian Institute.

(Left) Speaker Bruce MacFadden, University of Florida.



(Above) Speaker Michael Archer, Director, Australian Museum, Sydney.

(Above) (Left to right) Speakers Elizabeth Hadly, Stanford University, and Russell Graham, Denver Museum.

(Above) Speaker Michael Collins, Texas Archeological Research Laboratory, The University of Texas at Austin.

audience with a discussion of the contributions to vertebrate paleontology of two great men: Joseph Leidy (1823-1891), the founder of vertebrate paleontology in this country, and Ernie Lundelius, one of its greatest practitioners. Clayton emphasized that largely as a result of the efforts and dedication of Jack Wilson, Wann Langston, and Ernie Lundelius, The University of Texas at Austin's program is in a unique position to carry the field of vertebrate paleontology into the future and to advance new technological and methodological applications to the study of fossil vertebrates.

Dr. David Steadman, Dr. Holmes Semken, and Dr. Michael Collins presented data from archaeological contexts. Steadman's dynamic presentation revealed the dramatic extinctions of birds on islands in the Pacific following human colonization. Semken (Ernie's first graduate student) focused on the paleoecological information that can be extracted from small mammal remains preserved in archaeological sites, an area of research in which Ernie was a pioneer and a leading figure. Collins' presentation centered on the question of the time of arrival of humans in North America and emphasized the importance of collaboration between archaeologists and paleontologists in studies of this important question. His tales of experiences and collaborations with Ernie brought a personal touch to the presentation and provided a fitting closing for the symposium.

Following the presentations, symposium participants and attendees enjoyed a reception in the main hall of the Texas Memorial Museum, surrounded by new displays for the special exhibit "Scratching the Surface." A dinner after the exhibit viewing carried us all well into the following morning. The culmination of the symposium events was an open house on Saturday at the newly refurbished Vertebrate Paleontology Laboratory. Ernie spent his last 2 years as Lab Director overseeing a major building-repair effort, and the result is a spectacular improvement in the Lab. Collections and research facilities were open for viewing, and graduate students, faculty, and staff were on hand to provide tours and explanations.

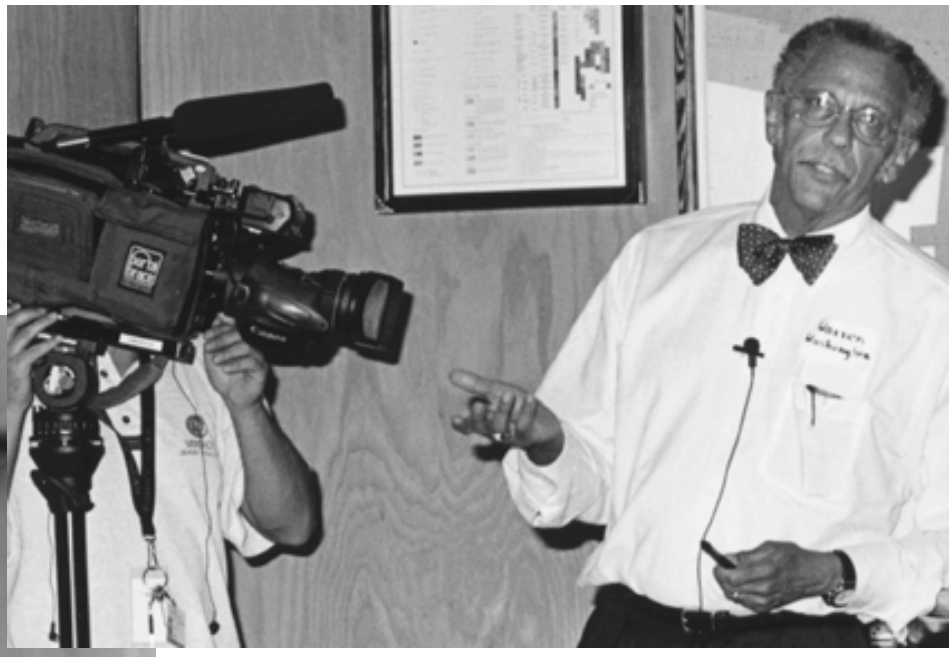
# Department Hosts Symposium on Global and Environmental Change

*by Jay L. Banner*

The Department hosted a symposium on April 5, 1999, entitled "Integrated Life and Earth Science Approaches to Understanding Global and Environmental Change." With the growing importance of environmental problems, it is becoming increasingly clear that the different components of the Earth system, including the biosphere, the hydrosphere, the atmosphere, and the lithosphere, are linked through the transfer of energy and material between them. It has also become evident that interdisciplinary efforts that combine the principles and technologies of physics, biology, chemistry, and geology are needed to understand the dynamic and complex processes that comprise these inter-component links. The symposium examined the means by which the life and Earth sciences can be integrated to provide new insights into environmental problems on a range of spatial and temporal scales. These kinds of integrated studies would provide the basis for an environmental studies institute at The University of Texas at Austin.

Presentations by four leading experts in their fields addressed issues of environmental change through studies of specific terrestrial and marine realms, as well as through global-scale models that simulate the Earth system. Dr. Jon Foley, Director of the Climate, People and Environment Program of the University of Wisconsin, spoke on "Human Activity, Climate Systems, and Ecology at the Global Scale." This presentation outlined how the biosphere is undergoing fundamental, global-scale changes in response to human land use, increases in atmospheric $CO_2$ concentration, and variations in climate. Foley stressed that we must examine the dynamics of the terrestrial biosphere and its interactions with the Earth's climate system, on a wide variety of time scales, from seasons to centuries.

Dr. Steven R. Archer, Associate Chair of the Department of Rangeland Ecology & Management at Texas A&M



*(Above) Warren Washington (right) describes what is unique about climate change over the last century and the latest computer simulations of future climate change while making room for KXAN/TV.*

*(Left) Jon Foley explains the importance of improving our understanding of terrestrial ecosystem processes on a global scale.*

*Steve Archer answers questions after his lecture on woody plant proliferation in semi-arid ecosystems. (Left to right) Larry Gilbert and Dick Richardson (UT Section of Integrative Biology), Ben Vaughan (Marine Science Institute Advisory Council), and Steve Archer.*

*Ellery Ingall explains his theory of how the atmospheric and oceanic oxygen levels are controlled by the marine phosphorus cycle.*

University, presented a lecture on "Woody Plant Proliferation in Semi-Arid Ecosystems: Causes, Constraints, and Consequences." Archer explained that reductions in biomass, associated with deforestation, are in stark contrast to vegetation changes occurring on many drylands, where grasslands and savannas are being replaced by shrublands and woodlands. These changes in land cover have implications for biogeochemistry, biodiversity, and land surface-atmosphere interactions, as well as for land use options for rural economies.

Dr. Ellery Ingall of UT's Marine Science Institute presented his theory on "Forcing of Atmospheric and Oceanic Oxygen Levels by the Marine Phosphorus Cycle." His mass balance calculations, using a coupled model of the biogeochemical cycles of carbon, phosphorus, oxygen, and iron, indicate that the redox dependence of phosphorus burial in the oceans provides a powerful forcing mechanism for balancing production and consumption of atmospheric oxygen over geologic time. Phosphorus-mediated redox stabilization of the atmosphere and oceans may have been crucial to the radiation of higher life forms during the Phanerozoic.

Dr. Warren M. Washington, head of the Climate Change Research Section in the Climate and Global Dynamics Division at the National Center for Atmospheric Research, spoke on "The Science of Climate Change: Observations, Modeling, and Policy Aspects." Washington reviewed recent observed climate change, discussed the extent to which it is attributable to natural variability inherent in the climate system, and presented examples of computer model simulations with increasing greenhouse gases and sulfate aerosols.

The symposium was sponsored by the College of Natural Sciences, the Texas Memorial Museum, and the Geology Foundation of The University of Texas at Austin.

# Gulf of Mexico Study Completed

Bill Galloway, working with Dick Buffler and Patty Ganey-Curry of the Institute for Geophysics, completed a 3-year synthesis of the Cenozoic fill of the Gulf of Mexico Basin in late 1998. Results of the study, which was supported by an international consortium of oil companies, have been received with wide interest.

Following several talks at the local societies' and the AAPG meeting in San Antonio, write-ups about the project (known informally as the GBDS) have appeared in both the *AAPG Explorer* (February 1999) and the PennWell magazine *Offshore* (June 1999). The articles highlight the methodology and objectives of the project and provide some industry "user group" comments about its utility.

The success of the first phase and ensuing interest generated by presentations and articles have resulted in initiation of a second phase, which will focus on further database expansion and synthesis of Oligocene—Pleistocene sequences. Currently, 12 companies sponsor phase II.

The GBDS project is a comprehensive synthesis of the Cenozoic depositional history of the Gulf of Mexico Basin that has integrated well data from the onshore, shelf, and upper slope with regional seismic stratigraphic and facies interpretation of the deep basin. The overall scientific goals of this project were to:

- Create a digital GIS (Geographic Information System) database containing information systematically tabulated from well logs, 2-D seismic lines, and published maps, papers, and other sources

- Test and refine sequence correlations between the continental margin (primarily well log database) and the deep basin (primarily seismic database)

- Identify and map successive Cenozoic sedimentary supply and cross-slope transport axes to guide petroleum reservoir prediction in slope and deep-basin exploration plays

- Document the temporal and spatial distribution of shelf-margin delta systems, submarine canyons, megaslump chutes, and structural conduits that have focused sand transport from the shelf margin to the slope and basin floor

- Test and expand current concepts of regional slope depositional process, facies associations, and paleogeographic evolution.

The Cenozoic section of the Gulf of Mexico Basin consists of deposits of 20 regionally correlative genetic stratigraphic sequences, recording major depositional episodes (depisodes). For each major sequence, interpretive data collected include thickness, lithofacies, depositional systems, and stratigraphic architecture. In addition, major stratigraphic features, including paleoshelf margins, local depocenters, depositional system outlines, mapped submarine canyons, and continental-margin embayments, have been compiled from published sources and digitized. These data have been stored in a digital format (ARC/INFO), which provides a "living" database that can be continually updated as more information becomes available or as data are reinterpreted. The preliminary results of this synthesis have been summarized in a series of interpretive maps showing the depositional setting of each sequence. These maps have been provided to supporting companies and incorporated into a draft manuscript that will be submitted for publication.


*Restaurant on the Gulf Beach at Port Aransas after Hurricane Carla, September 1961, showing removal of the sand from under the restaurant. Pictured is Walter Siler, who was a student at that time. Photo provided by Ernest L. Lundelius.*

# Glenn and Martha Vargas Retire

After 24 years of instructing in our "Gems and Gem Minerals" course, Glenn and Martha Vargas decided it was time to retire.

Glenn and Martha are the authors of *Faceting for Amateurs, Descriptions of Gem Materials,* and *Diagrams for Faceting* (3 vols.) and are known internationally for their gem and mineral business, including the manufacture and sale of faceting machines. They have also instructed at The College of The Desert. They are members of the Southern California Faceters Guild, the Palm Springs Lapidary Club, and the Texas Faceters Guild.

*Glenn (center) and Martha Vargas (right) shown with the plaque they were presented by Mark Cloos, Chairman (left), in appreciation for their many years of service to the Department.*

Since 1976, Glenn and Martha Vargas have been visiting the Department twice yearly to assist in the instruction of the faceting of gemstones in GEO 347K. Over the years, they have instructed thousands of students, sharing with them their interest in the faceting of gemstones. They first worked with Dr. Earl Ingerson on a moldavite (tektite) research project. Ingerson at that time was also teaching a minerals course and asked Glenn and Martha to assist. When Ingerson retired two years later, Dr. Edward Jonas took over the course, and he and Glenn and Martha worked out the arrangement, which Dr. Mark Helper continued upon Jonas' retirement. As specialists in our Department, they have shared a lifetime of experience in gem faceting and lapidary with those who were lucky enough to be their students.

Along with their visits, Glenn and Martha brought with them many cut gemstones and mineral specimens, which they donated to the Department. Some of their collections rival any others in the United States. Almost all of these fine mineral specimens are on display throughout the building for students, faculty, staff, and visitors to enjoy.

Glenn and Martha are noted for their dedication and devotion to our Department. They gave their time and considerable efforts in teaching, and they established the Vargas Endowed Presidential Scholarship, the Vargas Endowment for Gems and Gem Mineral Instruction, the Vargas Gemological Scholarship in Geological Sciences, and the Vargas Fund for Gem and Mineral Curation in the Geology Foundation. All of this illustrates how committed they have been over the years to our Department's mission of teaching and research in the geological sciences. We will all miss their visits and their infectious good will and humor, which have been so much a part of our lives for so long.

*Left to right, front row) William Fisher, Glenn and Martha Vargas, Betty Kurtz, and Dennis Dunn, (left to right, top row) Mark Cloos, Mark Helper, Ed Jonas, Sharon Mosher, Roger Gary, and Larry Reep. Glenn and Martha are pictured with faculty, staff, and students at a luncheon honoring the Vargases on February 26, 1999, at the UT Faculty Center.*

# SIPES Makes Donation for Grants-in-Aid

Chairman H. Louis Lee presented a check for $1,500 from the Society of Independent Professional Earth Scientists (SIPES) Central Texas Chapter to William L. Fisher, Director of the Geology Foundation, to be used for summer grants-in-aid support for $500 each for three students in the Department. Recipients were two graduate students who interned for the Bureau of Economic Geology (Helena H. Zircy) and the Institute for Geophysics (Junru Jiao), and an undergraduate (Jennifer D. Garcia) for support of the field course, GEO 660.

This contribution underscores the SIPES Chapter's appreciation for the cooperation and assistance that The University of Texas at Austin and the Bureau of Economic Geology have provided through meeting facilities, programs, and other support to the Central Texas SIPES chapter.

*H. Louis Lee, Chairman of the SIPES Central Texas Chapter (right), presents scholarships check to William L. Fisher, Director of Geology Foundation (left).*

# Faculty Awards and Honors

During the past year, several Department of Geological Sciences faculty members and faculty emeriti received recognition and honors:

**Milo M. Backus** was recognized by the Offshore Energy Center for his work with Geophysical Services, Inc. (now Western Geophysical) in the development of digital seismology.

The College of Natural Sciences honored **Daniel S. Barker** by selecting him for one of its 1999 College of Natural Sciences Teaching Excellence Awards.

The University of Texas Co-Operative Society presented **Ian Dalziel** the Best Research Paper Award for 1997.

**Leon E. Long** was inducted into the UT Academy of Distinguished Teachers recognizing his sustained and significant contributions to education, particularly at the undergraduate level.

**Randall A. Marrett** received the Carolyn G. and G. Moses Knebel Teaching Award from the Department of Geological Sciences.

NOAA selected **Arthur E. Maxwell** to serve on a newly formed 15-member Science Advisory Board.

**Earle F. McBride** was selected for the Geology Foundation's Houston Oil & Minerals Corporation Faculty Excellence Award.

**William R. Muehlberger** received the Geological Society of America's 1998 Structure Geology and Tectonics Division Best Paper Award for his *Tectonic Map of North America*.

*Randall A. Marrett (right), is presented with the G. Moses and Carolyn G. Knebel Teaching Award by Mark Cloos (left), at Department ceremony on May 6, 1999.*

*Earle F. McBride (right), is presented with the Houston Oil & Mineral Corporation Faculty Excellence Award by Mark Cloos (left), at Department ceremony on May 6, 1999.*

**John M. (Jack) Sharp, Jr.** received the Founders Award of the American Institute of Hydrology (AIH) at the 1998 national meeting in Las Vegas, Nevada. The Founders Award is given at the discretion of the AIH Executive Board for outstanding, long, and dedicated service to the AIH. Jack had previously received the AIH's C. V. Theis Award in 1996 for his contributions in advancing the science of ground-water hydrology.

# Staff Awards

**Kurt L. Bartelmehs**, Research Associate and Coordinator of Computational Resources, was awarded the Distinguished Service Award by the Department of Geological Sciences. The award is made for the most outstanding contribution to the operation of the Department or Department facilities during that academic year. The award recipient is selected by the Faculty Review Committee on the basis of nominating letters from the faculty, staff, and students.

*Mark Cloos, Chairman (left), presents Distinguished Service Award to Kurt L. Bartelmehs (right), Research Associate and Coordinator of Computational Resources, at Department ceremony on May 6, 1999.*

**Jo A. Soto**, Library Assistant III, received the Thelma Lynn Guion Staff Honors Award, which is awarded for excellence by staff members of the Joseph C., Jr. and Elizabeth C. Walter Geology Library.

*Dennis R. Trombatore (right) presents Jo A. Soto (left) the Thelma Lynn Guion Geology Library Staff Award at Department ceremony on May 6, 1999.*

The following staff members received The University of Texas at Austin Service Awards for years of service to The University: **Lawrence E. Mack**, Research Engineer/Scientist Assistant, 10 years, **Larry D. Reep**, Scientific Instrument Maker II, 10 years, **Debra Sue Trinque**, Accounting Technician, 15 years, and **Renee A. Waters**, Student Development Specialist III, 10 years.

*Some of the faculty, staff, and student winners of awards and honorable mentions at the Department ceremony on May 6, 1999, and students receiving outside of the Department honors and awards (left to right, top row) D. Shane Valentine, Matthew M. Uliana, Justin A. Zumbro and Randall A. Marrett (left to right, next to top row) Thomas E. Macrini, Timothy A. Meckel, Jose I. Guzman Espinal, and Dennis P. Dunn (left to right, next to bottom row) Kurt L. Bartelmehs, Joel H. Le Calvez, Roy B. Luck, Dennis A. Sylvia, Cori A. Lambert, Adrienne Barnett, and Jonas P. Gournay, and (left to right, bottom row) Georgios P. Tsoflias, Earle F. McBride, Jo A. Soto, Laura Rico, Jonathan M. Skaggs, Jean-Paul Van Gestel, and Rosario Vasquez-Scheerhorn.*

# Bill Muehlberger Receives Geological Society of America's Structural Geology and Tectonics Division's Best Paper Award

*by Sharon Mosher*

*Bill Muehlberger describing his Tectonic Map at GSA's Awards Session. Photo provided by Bill Muehlberger.*

The Geological Society of America's Structural Geology and Tectonics Division's Best Paper Award was given this year to Bill Muehlberger's *Tectonic Map of North America,* an outstanding map that is highly deserving of this prestigious recognition. This Best Paper Award, which is given annually for a published work of exceptional distinction that clearly advances the science of structural geology or tectonics, has been given previously for papers and a book, but this is the first time that it has been given for a map. This map has had and will continue to have a significant impact on our science in a way that no article can in long-term impact or quality. The tectonic map project, which started in 1981, was sponsored by the American Association of Petroleum Geologists (AAPG). The southern portion was published in 1992 and the northern portion in 1996.

Bill's unique contribution is a map that ties the tectonic evolution of all of North America together and to the development of the ocean floor. Correlation of events across the continent or between ocean floor and continent is now apparent because of the manner in which Bill visually displayed the various features. A number of features of the new tectonic map that make it a particularly significant contribution include (1) the detailed ocean floor data, (2) the correlation of tectonic time periods on land using color, (3) the color coding of the ocean floor to equivalent tectonic time periods on land, and (4) the many extra details such as salt domes in the Gulf Coast, and structure contours on the continental shelf and to basement on land (of various ages), to name a few. This map is an excellent teaching and research resource and will generate new ideas and insights into the tectonic evolution of North America and to the interrelationships between oceanic and continental tectonic events. Geologists at all levels and of all disciplines will use this map for many decades.

Bill devoted years to compiling this map and made changes as new advances came along, worked with various groups that had different interpretations, and even went out into the field to check problem areas himself. The result is a map that is as complete and up-to-date as possible. For the northern half, he has even updated the part that overlaps the already published part to match new work! The detail is incredible for such a map, and it is the result of painstaking care on Bill's part. Many people contributed to this map—especially his wife, Sally!—but the synthesis of all the geology and the ultimate interpretation were all Muehlberger's.

The evolution of the map, itself, had a major impact on North American tectonics. During the original

planning meeting in Austin, Bill brought people together from all over North America to talk about different ways to portray different tectonic features on maps. In the course of doing so, researchers from different parts of the country talked about new ideas based on their own research. This meeting was Bob Hatcher's and Hank William's first real exposure to the then-brand-new terrane concept. Shortly afterwards, they published their Appalachian terrane paper, which spawned the use of terranes throughout the Appalachians. The new idea of metamorphic core complexes debuted at this meeting, and the coalition between George Davis (and ultimately Greg Davis) and Gordon Lister was a direct by-product of this meeting. This combination of talents is what eventually led to our understanding of metamorphic core complexes. The idea of ductile low-angle normal faults also made its way to the oil industry through this meeting. During the construction of the map, Bill got researchers with opposing interpretations together in the field to sort out the data and interpretations, which undoubtedly led to an increased understanding of the geology. These are just some examples of how Bill's map contributed even before it was published.

This map clearly advances the science of structural geology and tectonics and will have an impact long into the future.

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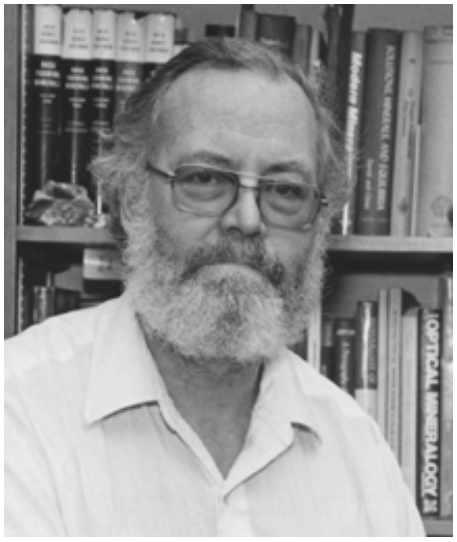
The *Tectonic Map of North America* was published by the AAPG and is available for $20 from AAPG at P. O. Box 979, Tulsa, OK 74101.

# Professor Daniel S. Barker Receives 1999 College of Natural Sciences Teaching Excellence Award

Dr. Dan Barker, a specialist in igneous petrology and volcanology, was presented with the College of Natural Sciences Teaching Excellence Award by Dean Mary Ann Rankin at a dinner she hosted on April 25, 1999, at the University of Texas Club beneath the eastside grandstand of Royal Memorial Stadium.

Professor Barker became a faculty member in 1963. He retires at the end of this academic year after teaching nearly 5,000 students. Chairman Mark Cloos says his teaching evaluations are "always among our best." Dan was awarded the Knebel Distinguished Teaching Award in 1976, 1980, and 1987.

Dr. Barker's role in geoscience education extends beyond the classroom. His 417-page undergraduate textbook, *Igneous Rocks,* was published in 1983 and was so well received it was reprinted in 1990. He has updated 1,100 definitions of igneous petrology terms for the American Geological Institute's *Glossary of Geology*. Dan provided nearly half the photographs of volcanic features in a collection for use in teaching that is distributed by the National Association of Geology Teachers, and he is currently a consultant on volcanoes for the Cable News Network. We congratulate Dan on receiving this prestigious recognition that caps a great career.



*Daniel S. Barker*

# Professor Daniel S. Barker Retires

*by Fred McDowell and Doug Smith*

As of the end of the 1998-1999 academic year, Dan Barker has retired after 36 years in our Department. His career here was marked by his devotion to science, to teaching, and to igneous rocks and minerals, and by his wit. Dan graduated from Yale in 1956. His Ph.D. at Princeton (1961) was a study of granite, based on rocks in his home state of Maine, and was supervised by Harry Hess. He then completed two postdoctoral years investigating phase equilibria between feldspars and aqueous solutions before coming to Austin, armed with expertise in field, laboratory, and theory.

*Rosemary (left) and Dan Barker (right) at the retirement party on May 11, 1999, in the Geology Library.*

Dan taught courses ranging from introductory engineering geology to graduate thermodynamics, but he most often taught igneous petrology and mineralogy. He has received numerous awards for his teaching, both from our Department and from the College of Natural Sciences. He wrote a 400-page text, *Igneous Rocks*, which was published in 1983 and widely adopted, reprinted in 1990, and issued in Chinese translation in 1992. In recent years, he offered an elective course in volcanology, in which he both taught about magmas, volcanoes, and hazards and also taught students how to write. His as yet unpublished notes for that course contain an intensive treatment of the science of volcanology, augmented by notes on topics such as pumice-washed jeans and as the name of that debt-ridden university devoted to study of a volcanically-active Galilean moon (informed readers will deduce its name).

Dan has also given significant administrative service to the Department as a member and chairman of numerous ad hoc and standing committees. Most important have been his 2-year periods each as undergraduate and graduate advisor. These years were times of burgeoning enrollment and consequently very heavy administrative loads in those critical positions.

The breadth of his research confirms his diverse abilities. He set up a laboratory for hydrothermal experiments and used it to investigate phase equilibria at high pressures and temperatures. He helped to acquire and manage laboratories for rock and mineral analysis, and he has been particularly instrumental in assuring the quality of the data produced. He began investigations of Llano rocks shortly after his arrival, and he has another investigation of Llano granites currently underway. His field studies in West Texas began with characterization of silica-undersaturated igneous rocks there, and in recent years, he has continued to work on volcanic rocks in and near Big Bend. He has collected, analyzed, and published investigations of volcanic rocks from the Aeolian Islands in Italy and of carbonatites from Africa. He has participated in international congresses and field trips all over the world—Africa, the Cape Verde Islands (on a Russian trawler), Greenland, Japan, and many other spots. Closer to home, he has published studies of the Balcones Province volcanic rocks and integrated his data with Keith Young's studies of Cretaceous stratigraphy.

His colleagues and students have benefited from his expertise in many ways. Among them, he has collected superb study suites of rocks from all over the world and has organized them to make them available for teaching and research. Students in his graduate courses and colleagues benefited from detailed handouts on classic rock localities. Steve Clabaugh, now a Professor Emeritus, began these collections that Dan has so ably augmented, and so the Department has decided to continue Dan's efforts by establishing a computer catalog for the combined resource and naming it the Barker-Clabaugh Collections for Teaching and Research.

Aside from stepping out of the classroom, we suspect that Dan's transition to Emeritus Faculty will barely be noticeable. Following a tradition established by many of our retired faculty, we expect to find him regularly in his office, completing manuscripts and finally getting to some pet projects. We are certain that there is a long list of the latter on an index card in his shirt pocket. Frequent travels to distant points of geologic interest, either with an excursion group or independently, but always with his wife Rosemary, will no doubt continue. It is difficult to imagine that they will increase the pace of this travel, but we are betting that they will try.

# In Memoriam: Dr. Samuel P. Ellison, Jr.

*by William R. Muehlberger*

Dr. Samuel P. Ellison, Jr., Professor Emeritus and holder of the Alexander Deussen Professorship in Energy Resources in the Department of Geological Sciences, passed away on June 4, 1999, at the age of 84.

Sam arrived at UT in 1948 to begin teaching petroleum geology and general geology. These were subjects that he could make come alive. His own research interests were in conodont biostratigraphy, a field in which he was a respected leader. He became Chairman in 1952, and for the next 10 years he devoted his life to the improvement of the Department and its resources.

In 1953, Sam founded the Geology Foundation, a vision that was realized by the donations of the many alumni and other friends of the Department. The Foundation has made travel possible for many of us (both faculty and students), to go to meetings to report on research, some of which was also supported by the Foundation. Endowed Professorships and Chairs, funded by donations to the Foundation, have been instrumental in acquiring and retaining top faculty. All in all Sam's Geology Foundation has been a strong influence in the development of the Department into one with a world-class reputation. (We are still the only Department at The University of Texas at Austin that has its own Foundation!). Friends and colleagues of the Geology Foundation Advisory Council established a fund in Sam's honor upon his retirement in 1979: the Samuel P. Ellison, Jr. Fund. Retirement for Sam really just meant the end of organized classes and committee responsibilities; he continued with his research and was willing to instruct anyone who would stop to listen.

*Dr. Samuel P. Ellison, Jr. (1914-1999).*

After leaving the task of being Chairman of the Department, he continued directing the Geology Foundation. In 1970, he became Acting Dean of the newly organized College of Natural Sciences until the search committee found a permanent dean. He also served The University in many committee assignments, prominent ones being the Committee on Academic Freedom and Responsibility (1968—1970) and the Energy Research Group (1972—1979), with earlier stints on university policy-making committees, including the Faculty Council, the Graduate Assembly (including 2 years as Chairman), and the Faculty Advisory Committee on Policy. Within the Department he served several times as the faculty sponsor to the University Student Geological Society and Sigma Gamma Epsilon.

In 1971, as a Distinguished Lecturer of the American Association of Petroleum Geologists, he spoke on "Geology of the Middle East." That same year saw him honored by Phi Kappa Phi, a national honor society, and he was awarded Honorary Membership in the Dad's Association of The University of Texas. The next year he was elected Vice-President of AAPG! In 1975, SEPM made Sam an "Honorary Member." June 1976 saw him teaching a short course on conodonts at the University of Sao Paulo, Brazil. Sam received several impressive awards in 1977: the G. H. Pander Gold Medal Award from the Pander Society and an AAPG Distinguished Service Award.

At Sam's retirement dinner-dance, in spite of his objections, there were several speeches praising him for his contributions to the maturation of the geological sciences and University administration since his arrival in 1948. Steve Clabaugh outlined Sam's efficient tenure as Chairman and pointed out some significant achievements for which Sam was singularly accountable (examples: getting faculty salaries to an acceptable level for the first time in history; his perception of the need and then becoming the driving force behind the concept of alumni support, which culminated in the organization of the Geology Foundation). Dean A. R. Schrank, then head of the College of Natural Sciences, described that Sam's dedication to eliminating mediocrity in education established the direction for the new College. Peter T. Flawn, then President of The University of Texas at Austin (and holder of the L. T. Barrow Professorship in Mineral Resources in the Department) praised Sam for his strong support during Pete's early career at The University and his high level of cooperation during Pete's directorship of the Bureau of Economic Geology. On behalf of the faculty of the Geography Department,

George Hoffman presented Sam with a handsome certificate enumerating his role in the development of geography as a viable department at UT. Lastly, Sam received a clock from the Department as a memento of the occasion.

Sam kept busy after retirement writing a textbook on the geology of Texas (unfortunately, never completed) and lecturing at numerous universities. Possibly his proudest moment was when he gave the dedicatory address at his alma mater for the W. D. Keller Geology Auditorium at the University of Missouri. Walter Keller was Sam's idol as an outstanding teacher/researcher.

Sam was born on July 1, 1914, in Kansas City, Missouri, to Samuel Porter and Mary Frances Edwards Ellison. He was raised in Raytown, Missouri. He graduated from high school in 1930 as valedictorian of his class. He earned his Bachelor's degree in Geology from the University of Missouri at Kansas City and his Master's and Ph.D. degrees from the University of Missouri at Columbia. While at the University, he met Dottie, who became his lifelong companion when he married her on June 9, 1940. He taught at the University of Missouri School of Mines & Metallurgy from 1939 to 1944. From 1944 to 1948, he was a geologist for Stanolind Oil & Gas Company in Midland and Wichita Falls, Texas.

Dr. Ellison is survived by his wife, Dottie Ellison of Round Rock, Texas, his sons and daughters-in-law, Dave and Ruth Ellison of Englewood, Colorado, John and Sherri Ellison of College Station, Texas, and Steve and Kitsy Ellison of Georgetown, Texas. He is also survived by six grandchildren and one great-grandchild.

# In Memoriam: Gunther Karl Hoops

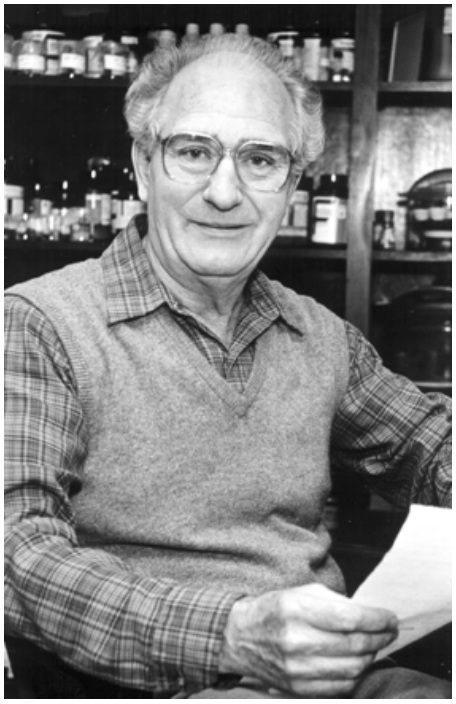
*by Mark Cloos*

Gunther Karl Hoops, an especially skilled staff member of the Department, passed away on November 18, 1998. Karl was an analytical chemist in the Department from September 1, 1967, until his retirement on March 31, 1989.

Karl was born in Germany on November 14, 1923. During World War II, he was a prisoner of war interned near Bastrop, Texas. For his memorial service, his wife, Alicia, wrote that he told her that his experience with the people of Texas and the region's climate were so different and wonderful from what he had previously experienced that he pledged to himself to return some day. In 1953, Karl immigrated to Canada and worked for the Geological Survey of Canada. He moved to UT Austin in 1963, when he returned to school to receive a B.A. in Microbiology and then an M.A. in Botany. Bill Muehlberger hired Karl to establish analytical facilities in the then new Geology Building.

Karl's productivity and standards of excellence were legendary. His work is recorded in tables and graphs in dozens of professional papers, several of which he was coauthor with faculty and students from our Department. In 1983, Karl was awarded a UT Staff Excellence Award by President Flawn. In 1988, he was one of the first recipients of the College of Natural Sciences Staff Excellence Award, given by Dean Boyer.

Karl is survived by his wife, Alicia Moncayo-Hoops, and his friends who knew him as a humble, gentle, and caring man.



*Gunther Karl Hoops (1923-1998).*

# Endowed Lecturers

## Fall 1998

### John D. Mather

University of London
Egham, Surrey, UK
Fred L. and Frances J. Oliver Centennial Lectureship in Texas Hydrology and Water Resources
"The Fate of the British Radioactive Waste-Disposal Site"
October 8, 1998

*John D. Mather (right) with graduate student Staci L. Loewy (left).*

### Greg Retallack

University of Oregon
Eugene, Oregon
Judd H. and Cynthia Oualline Centennial Lectureship in Petroleum Geology
"World's Greatest Midlife Crisis: The Permian—Triassic Mass Extinctions on Land in Australia and Antarctica"
November 12, 1998

*Greg Retallack*

## Spring 1999

### Paul E. Olsen

Lamont-Doherty Earth Observatory
Columbia University
Palisades, New York
Don R. and Patricia Kidd Boyd Lectureship in Petroleum Exploration
"Climatic Transect across Triassic-Jurassic Pangea—Results From High-Resolution Cyclo- and Magnetostratigraphy in Lacustrine Deposits"
February 8, 1999

"Calibration of the Chaotic Behavior of the Solar System by Geologic Data from the Beginning of the Age of Dinosaurs"
February 9, 1999

"Flood Basalts, Bolides, and Mass Extinctions at the Beginning of the Age of Dinosaurs"
February 10, 1999

"Key Innovations in the History of Life and Changes in the Long-Term Global Carbon Cycle"
February 11, 1999

*Paul E. Olsen*

### Walter C. Pitman, III

Lamont-Doherty Earth Observatory
Columbia University
Palisades, New York
Edwin Allday Lectureship in Geological Sciences
"Causes, Rates, and Magnitude of Eustatic Sea-Level Changes"
March 1, 1999

"Human Implications of a Dramatic Black Sea Flood"
March 2, 1999

"Dates and Magnitudes of the Black Sea Flood"
March 3, 1999

*Walter C. Pitman, III*

# Visiting Speakers

## Fall 1998

### Barbara L. Dutrow
Louisiana State University
Baton Rouge, Louisiana
"Deciphering Fluid Infiltration, Combining 3-D Thermal and Textural Modeling"
November 19, 1998

### Pamela Hallock-Muller
University of South Florida
St. Petersburg, Florida
"Nutrients and Carbonate Sedimentation"
September 22, 1998

### Bob A. Hardage
Bureau of Economic Geology
The University of Texas at Austin
"Vector-Wavefield Seismic Stratigraphy Integration of P and S Stratal Surfaces"
September 10, 1998

### Larry W. Lake
Department of Petroleum and Geosystems Engineering
The University of Texas at Austin
"Some Recent Results on the Numerical Modeling of Turbidite Deposits"
September 3, 1998

### Stephen Marshak
University of Illinois
Champaign, Illinois
"Precambrian Deformational Styles, and the Tectonic Assembly of Brazil"
September 24, 1998

### Peter R. Rose
Telegraph Exploration
Austin, Texas
"Ethics in Professional Geological Practice: Real-life Problems, Real-life Consequences"
November 5, 1998

### Abraham E. Springer
Northern Arizona University
Flagstaff, Arizona
"The Hydrogeology of Conservation"
September 29, 1998

## Spring 1999

### James A. Austin, Jr.
Institute for Geophysics
The University of Texas at Austin
"Understanding the Stratigraphic Response to Sea-Level Change: Studies of the New Jersey Continental Shelf"
February 11, 1999

### Peter G. Cook
Commonwealth Scientific and Industrial Research Organisation
Adelaide, Australia
"Investigation of Groundwater Flow in Fractured Rock Using Environmental Isotopes; Clare Valley, South Australia"
February 5, 1999

### Timothy A. Cross
Colorado School of Mines
Golden, Colorado
"Stratigraphic Prediction Using Stratigraphic Inversion"
February 25, 1999

### R. Lawrence Edwards
University of Minnesota
Minneapolis, Minnesota
"High Precision Th-230 and Pa-231 Dating of Carbonates and Quaternary Climate Change"
April 20, 1999

### Paul F. Hudson
Department of Geography
The University of Texas at Austin
"Assessment of Erosion Rates in the Lower Mississippi River Prior to Large-Scale Human Modification"
February 19, 1999

### Louis L. Jacobs
Shuler Museum of Paleontology
Southern Methodist University
Dallas, Texas
"The Northern Edge of Gondwana"
February 16, 1999

### Carl E. Jacobson
Iowa State University
Ames, Iowa
"Ion Microprobe Study of Detrital Zircons from the Orocopia Schists of Southern California: Implications for Cordilleran Tectonics"
March 10, 1999

### Ronald A. Johns
Austin Community College
Austin, Texas
"Sponges: Our Misunderstood Friends"
April 19, 1999

### Nick Lemon
The University of Adelaide
Adelaide, Australia
"The Enorama Diapir, Adelaide Geosyncline, South Australia: A Record of Halokinesis Through 4000 m of Sedimentation"
April 5, 1999

### David Olgaard
Exxon Production Research
Houston, Texas
"New Insights into Ductile Shear Zone Development from High Strain Torsion Experiments"
March 23, 1999

### Francisco Olivera
Center for Research in Water Resources
The University of Texas at Austin
"Continental-Scale Runoff Routing Model Using GIS"
March 5, 1999

### Stan Paxton
Exxon Production Research
Houston, Texas
"Regional Distribution of Reservoir Quality, Venezuela"
April 30, 1999

### Ingo A. Pecher
Institute for Geophysics
The University of Texas at Austin
"Gas Hydrates on Continental Margins—Environments, Questions, and Some Results from Seismic Studies"
February 22, 1999

### Harry H. Roberts
Coastal Studies Institute
Louisiana State University
Baton Rouge, Louisiana
"Stratigraphy and Sedimentology of a Gulf of Mexico Shelf-Edge Delta"
February 18, 1999

"Mahakam River Delta (Indonesia): Imprints of Sea-Level Change and Alternating Terrigenous Clastic/Carbonate Sediment Dominance"
February 18, 1999

### Craig T. Simmons
Flinders University
Adelaide, Australia
"Heterogeneity in Hydrogeologic Systems"
January 28, 1999

"Salinity Transport in Fractured Media"
January 29, 1999

### Scott Tyler
Desert Research Institute
Reno, Nevada
"Ground-Water Recharge in Arid Regions: Questions About Today and the Past"
February 17, 1999

### Peter van Metre
United States Geological Survey
Austin, Texas
"Paleolimnology of Reservoirs: The Identification of Historical Water-Quality Trends in Rivers Using Reservoir Sediment Cores"
February 26, 1999

# Speakers—Faculty and Staff in the Department of Geological Sciences

## Fall 1998

### William L. Fisher
"Fossil Fuels: Are We Running Out or Fouling Up?"
December 1, 1998

### Brenda Kirkland George
"The Dynamic Capitan Reef"
September 17, 1998

### Stephen P. Grand
"Global Seismic Tomography: A Snapshot of Convection in the Earth"
October 13, 1998

### Timothy B. Rowe
"Paleontology vs. the Information Age"
October 6, 1998

## Spring 1999

### Christopher J. Bell
"Why Study Mice?"
March 9, 1999

"Cathedral Cave: Middle Pleistocene Vertebrates from the Great Basin"
April 12, 1999

### William D. Carlson
"An Unsolved Mystery: Baffling Behavior of Trace Elements in Garnet"
February 24, 1999

### James N. Connelly
"Dating the Carbonates in Martian Meteorite ALH-84001"
May 5, 1999

### James S. Famiglietti
"Soil Moisture Spatial Variability and Scaling with Implications for Land-Atmosphere Interaction During SGP97"
March 25, 1999

### Robert L. Folk
"A Funny Thing Happened on the Way to the Synagogue"
January 25, 1999

### Richard A. Ketcham
"Thermal Histories from Fission Tracks: New Toys"
March 22, 1999

### J. Richard Kyle
"Metallogeny of Zn-Pb-Ag Deposits in Sedimentary Basins: Characteristics and Genesis of the Tertiary Sandstone-hosted Jinding Zn-Pb Deposit, Yunnan, China"
March 24, 1999

### Randall A. Marrett
"Power-Law Scaling of Fractures: Can We See a Real Signal through the Artifacts?"
March 31, 1999

### Kitty L. Milliken
"Return of the Mantle Microbes, and Other Amazing Things in Shocking 3-D"
March 8, 1999

### Douglas Smith
"Spinel Peridotite, Mantle Evolution, and Tectonic Provinces"
April 7, 1999

# Student Speakers—Technical Sessions

## Fall 1998

### Salem G. Aljuhani

Ph.D. Candidate
"A Central Arabian Oil Field and the Information Available from 3-D Seismic Data and Wireline Logs"
October 15, 1998

### Eduardo E. Ariza

M.S. Candidate
"High-Resolution Sequence Stratigraphy of the Leonardian Lower Clear Fork Group, Permian Basin"
November 3, 1998

### Matthew W. Colbert

Ph.D. Candidate
"Evolution and Variation in Recent and Fossil Tapirs"
October 1, 1998

### Gundogan Coskun

M.S. Candidate
"Seismic Stratigraphic Analyses of the Northern Part of the Pattani Basin, Gulf of Thailand"
October 20, 1998

### Thomas R. Fenstemaker

M.S. Candidate
"Density-Driven Free Convection through Low-Permeability Units"
October 20, 1998

### Gavin L. Hudgeons

M.S. Candidate
"Origin of Septarian Concretions—Bastrop, Texas"
October 22, 1998

### Eugene M. Kim

Ph.D. Candidate
"Natural Gas Ultimate Recovery Growth Analysis in the Gulf Coast Basin"
November 24, 1998

### Fanchen Kong

Ph.D. Candidate
"Modeling Basin-Scale Subsidence and Extension in the East China Sea Basin"
September 8, 1998

### Roy B. Luck

M.S. Candidate
"Structural Geology in the Grasberg Lime Quarry and Amole Drift—Implications for Emplacement of the Grasberg Intrusion, Irian Jaya, Indonesia"
October 22, 1998

### Stefan P. Muszala

M.S. Candidate
"Magnetics of the Puerto Rico Trench and Aeromagnetics of the North Slope of Alaska"
September 15, 1998

### Pamela R. Owen

Ph.D. Candidate
"Phylogenetic Relationships among American Badgers (Taxidiini) and the Evolution of the 'Badger' Ecomorph"
November 10, 1998

### Georgios P. Tsoflias

Ph.D. Candidate
"Hydrogeologic Characterization of Fractured Carbonate Aquifers Using Ground-Penetrating Radar"
December 3, 1998

### Ricardo Torres Vargas

Ph.D. Candidate
"The Miocene Reservoir Sandstones, Saline Basin, Southern Gulf of Mexico: Diagenesis and Economic Significance"
November 17, 1998

### Jennifer T. Wilson

M.S. Candidate
"PAHs in Urban Lakes and Reservoirs"
November 3, 1998

## Spring 1999

### Fatma Akyurek

M.S. Candidate
"Petrophysical and Geological Characterization of Dolomitized Carbonate Ramp Reservoirs: Seminole San Andres Unit 5309 Well, Gaines County, West Texas"
March 30, 1999

### Susan D. Anderson

M.S. Candidate
"Evidence for Early High-Pressure Metamorphism in the Western Llano Uplift, Central Texas: Garnet-Clinopyroxenites in Mason County Revisited"
April 22, 1999

### Stephen A. Clark

M.S. Candidate
"Along-Strike Variation of a Non-volcanic Rifted Margin: A Geophysical Investigation of Galicia Bank and the Iberia Abyssal Plain"
April 27, 1999

### Jianchun Dai

Ph.D. Candidate
"Integrated Reservoir Characterization of Sun Oil and Gas Field, Starr County, South Texas"
March 4, 1999

### Laura L. Faulkenberry

M.S. Candidate
"Alluvial Sedimentation and Depositional History of the Nonmarine Gila Group, Mimbres Basin, New Mexico"
April 27, 1999

### Jonas P. Gournay

Ph.D. Candidate
"Diagenesis of Ooid Reservoir Facies in McElmo Creek Unit, Greater Aneth Field"
April 6, 1999

## Jose I. Guzman Espinal

Ph.D. Candidate
"Miocene Stratigraphy of Northeastern Maracaibo Basin, Venezuela: Implications for Reservoir Heterogeneity Predictions in Tectonically-Active Settings"
April 1, 1999

## H. Scott Hamlin

Ph.D. Candidate
"Slope and Basin Depositional Systems, Ozona Sandstone, Val Verde Basin, Southwest Texas"
February 4, 1999

## Jeffrey S. Harrison

M.S. Candidate
"Hydrothermal Alteration and Fluid Evolution of the Grasberg Porphyry Cu-Au Deposit, Ertsberg Mining District, Irian Jaya, Indonesia"
April 29, 1999

## David M. Hirsch

Ph.D. Candidate
"Studies of Porphyroblast Crystallization Using Quantitative Analysis of Crystal Textures"
February 2, 1999

## Cori A. Lambert

M.S. Candidate
"Meso-Scale Structural Geology and Petrology of the Heavy Sulfide Zone Along the Kucing Liar and Amole Drifts, South of and Within the Grasberg Igneous Complex, Gunung Bijih (Ertsberg) Mining District, Irian Jaya, Indonesia"
April 13, 1999

## Faqi Liu

Ph.D. Candidate
"Surface Multiple Attenuation in the Plane Wave Domain"
February 23, 1999

## Qunling Liu

Ph.D. Candidate
"Post Mid-Cretaceous Sequence Stratigraphy, Depositional Systems, Sediment Transport Axes, and Depositional History, Gulf of Mexico Basin"
April 15, 1999

## Javier G. Moros

M.S. Candidate
"Fracture Scaling: Relations between Fracture Length and Mechanical Aperture"
May 4, 1999

## Vannaroth Nuth

Ph.D. Candidate
"Changes of Ice Sheet Thickness as Detected by Satellite Altimeter"
January 26, 1999

## Yong-Joon Park

M.S. Candidate
"Depositional Facies Analysis from the Seismic Attributes in the Pattani Basin, Gulf of Thailand"
April 29, 1999

## Laura Rico

M.S. Candidate
"Geometric and Kinematic Evolution of a Complete Detachment Fold in a Natural Cross Section"
April 22, 1999

## Cengiz T. Vur

M.S. Candidate
"Petroleum Geological Data Management"
March 30, 1999

## Justin A. Zumbro

M.S. Candidate
"Recent Petrologic and Structural Advances in the Valley Spring Gneiss of the Southeastern Llano Uplift, Texas"
April 13, 1999

*Mammoth bones at a Paleoindian site at Blackwater Draw, Portales, New Mexico, October 1962. Photo provided by Ernest L. Lundelius.*

# Research and Teaching Assistants, 1998-1999

## Research Assistants

### Bureau of Economic Geology

Akyurek, Fatma
Badescu, Adrian C.
Cerda, Fernando A.
Chen, Jinghua
Choi, Wan-Joo
Dai, Jianchun
Doherty, Eloise H.
Espinal Guzman, Jose I.
Fimlay, Carlos J.
Keirstead, Robert F.
Kilic, Cem O.
Kim, Eugene M.
Le Calvez, Joel H.
Marchan Campos, Jorge L.
Mickler, Patrick J.
Moros, Javier G.
Muzaffar, Asif
Nutter, Christi G.
Palachek, Susan C.
Rassi, Claudia
Rush, Jason W.
Settemeyer, Dennis S.
Shepherd, Sunday K.
Sipahioglu, Nazim O.
Vur, Cengiz T.
Walsh, Patrick
Wang, Chengshu
Zirczy, Helena H.

### Institute for Geophysics

Burger, Robert L.
Clark, Stephen A.
Jiao, Junru
Lindsay, Sarah R.
Miskelly, Thomas E.
Mukherjee, Anubrati
Rogers, Robert D.
Schlottmann, R. Brian
Schuur, Catherine L.
Stachowiak, John S.
Sylvia, Dennis A.
Tsoflias, Georgios P.
Wertz, Karah L.

### Department of Geological Sciences

Anderson, Susan D.
Barker, Joey J.
Christian, Lance N.
Fenstemaker, Thomas R.
Feseha, Mulugeta Y.
Harrison, Jeffrey S.
Hirsch, David M.
Hoh, April M.
Lambert, Cori A.
Luck, Roy B.
Matzel, Eric M.
Mickler, Patrick J.
Moros, Javier G.
Ortega Perez, Orlando J.
Owen, Pamela R.
Schlottmann, R. Brian
Sylvia, Dennis A.
Valentine, D. Shane
Weiland, Richard J.
Wu, Xinxia

## Teaching Assistants

Anderson, Susan D.
Badescu, Adrian C.
Berg, Aaron A.
Bradley, Michael H.
Burger, Robert L.
Chatawanich, Kirk
Clark, Stephen A.
Corboy, James J.
De Nooyer, Cathrin F.
Dotter, Kara R.
Dufeau, David L.
Dunn, Dennis P.
Fenstemaker, Thomas R.
Feseha, Mulugeta Y.
Franzosa, Jonathan W.
Ghosh, Ayati
Grellet-Tinner, Gerald
Griffin, Joy D.
Grimes, Stephen W.
Hamman, Russell R.
Hansen, C. Norman
Harrison, Jeffrey S.
Hoh, April M.
Hudgeons, Gavin L.
Hunt, Brian B.
Hutchings, Wade D.
John, Jason G.
Khorzad, Kaveh
Lambert, Cori A.
Landrum, Michael T.
Loewy, Staci L.
Macrini, Thomas E.
Matzel, Eric M.
McFarlane, Christopher R.
Meckel, Timothy A.
Miskelly, Thomas E.
Murray, Lyndon K.
Piontek, Jennifer E.
Ressler, Theodore R.
Riley, Brook C. D.
Rodell, Matthew
Rogers, Jennifer Roberts
Roth, Michelle A.
Ruez, Dennis R.
Shepherd, Sunday K.
Sylvia, Dennis A.
Thompson, Clark
Troutman, Tony J.
Turich, Courtney H.
Tykoski, Ronald S.
Uliana, Matthew M.
Valentine, D. Shane
Van Gestel, Jean-Paul
Wertz, Karah L.
Zumbro, Justin A.

## Assistant Instructor

Hirsch, David M.

# Field Excursion to the Central Andes—GEO 381R

*by Rich Kyle*

*El Tatio geothermal field in northern Chile. Photo provided by Rich Kyle.*

Rich Kyle has had a long-term educational philosophy about the importance of field studies to complement the traditional classroom experience, that is, "The best geologists are those who have seen the most rocks." Thus, Rich has organized and led more than 20 major student field trips to examine the geology and mineral resources of various regions. Typically, these have been to regions such as the southern Appalachians, the Mid-Continent, southwestern U.S. Cordillera, and Sierra Madre Oriental and Occidental. A few years ago, he developed GEO 381R, Regional Studies in Mineral Resources Geology, for students with diverse interests and backgrounds who can make contributions on many topics and scales to the geologic and other issues about a region to provide the best learning experience for all.

Rich recently joined forces with friends Bill Chavez at New Mexico Tech and Erich Petersen at the University of Utah to organize international field trips to selected areas of interest to mineral resource geologists. In May, the combined university group, including 6 UT graduate students, spent 3 weeks in northern Chile, experiencing the spectacular tectonic and volcanic geology of the central Andes, the stark terrain and climate of the Atacama Desert, and the world-class mineral deposits. The trip was a fabulous educational opportunity for the students with interests in tectonics (Karah Wertz), subduction-related magmatism (Tip Meckel), ore deposits (Asif Muzaffar and Jim Corboy), and climate-related weathering phenomena (Joy Griffin and Tony Troutman), as well as Pre-Columbian history and Andean culture. The trip followed a spring semester seminar in which the students reviewed various aspects of the geology of the region. Each student prepared a section of a guidebook for the trip.

*Flamingoes on the Laguna del Negro Francisco with a background of an alteration zone in the Miocene Volcán Copiapo in the Maricunga area. Photo provided by Rich Kyle.*

The trip included 10 geologic professionals who shared invaluable experiences from the real world of mining and mineral exploration. These professionals and their companies also provided field vehicles and per diem support, which

helped make the trip affordable for the students. The Geology Foundation provided scholarships to cover about half the international airfare for the students and helped to make the trip an incredible value for the students.

*Looking east from the Salar de Atacama at a dusting of snow on the 5,916-m peak of Volcán Licanabur on the Chile-Bolivia border. Photo provided by Rich Kyle.*

The trip started in Copiapo, following an overnight bus ride from Santiago. Predictably, because Chile is the world's leading copper-producing country, the itinerary was dominated by tours of various types of copper deposits that are hosted by Mesozoic and younger igneous rocks of a variety of types. The deposits are complex mineralogically, the result of the variability of the original copper concentrations and the overprint of weathering phenomena associated with the hyperarid climate of the Atacama Desert.

The first visit was to the Candelaria copper deposit in Mesozoic metavolcanic strata, arguably the most controversial deposit of the entire trip. The group toured El Salvador, the subject of many classic studies of the relationship between hydrothermal alteration and "porphyry" copper mineralization. El Salvador also provided the only underground mine experience for the group. Next was a tour of the new Manto Verde copper mine, an interesting variety of structurally controlled copper deposits without an apparent genetically associated pluton. The group's "off day" was devoted to regional geology, including tracking the Atacama fault and the coastal batholith complex cut by spectacular dike swarms. The day ended at the coastal town of Taltal, from which the group ventured out to examine manto-type copper deposits in Mesozoic andesitic volcanics. Traveling further inland, the group toured El Guanaco, an interesting study in metal zonation from a high-level gold-rich deposit that becomes increasingly copper-rich with depth. The Lomas Bayas mine provided an example of the climatic-induced complexity that affects near-surface copper deposits in the Atacama region, where the high nitrate and chlorine content of the secondary ores complicates copper recovery via the solvent extraction process. The nearby Fortuna area contains a well-evaluated copper resource that awaits better metal prices before production can commence. El Abra, at a 4,200-m elevation, provided the high point of the trip, with one of the world's largest copper producers against a backdrop of snow-covered Andean volcanic peaks. Finally, the group visited Mina Sur (Exotica), one of the most spectacular copper deposits of the trip. Mina Sur formed where groundwater, carrying copper derived during weathering of the nearby supergiant Chuquicamata porphyry deposit, precipitated brightly colored secondary copper minerals within the matrix of Tertiary gravels, forming a high-grade "exotic" deposit.

The Tejanos stayed after the conclusion of the mine trip to see some of the other geologic features of northern Chile in the San Pedro de Atacama area, one of the few habitable sites within the heart of the Atacama region. This trip provided many additional experiences, including an earthquake in Calama and a surreal sunrise at 4,000 m at the steaming El Tatio geyser field, after the group arrived in the freezing dark. El Tatio is the surface expression of a modern hydrothermal system that may be forming ore deposits in the subsurface. The Salar de Atacama contains the world's largest lithium producer from the interstitial brines beneath a rugged evaporitic crust; the limited water in the salar hosts a thriving biological community, including a flamingo colony. The group was even entertained by an impromptu concert from a Chilean folk group on the return bus to Calama. The students made their way back to Santiago with an intermediate stop to study coastal processes on the beach at La Serena, while Rich flew ahead to give a talk on Grasberg research at the University of Chile.

Just as Rich had advertised for the course that the trip should not be confused with a vacation, it was not. Although the group returned bone-tired, everyone had an unforgettable experience. Hmm! Where will next year's geoadventure be . . . ?

# Summer Field Camp 1999—GEO 660

*by Mark Helper*

The GEO 660 class this summer examined, mapped, measured, and explored some of the most spectacular geology in the West. The 31 students who participated also saw more than their fair share of rattlesnakes and flat tires but experienced some of the best weather in recent memory. Drs. Banner, Connelly, Helper, Kocurek, Marrett, and McBride and 7 graduate teaching assistants taught the class for varying portions of the 6-week period.

*(Above) (Left to right) Eric North, Danielle Schleman, Brenda Koch, Sherri Randal and T. A. Shane Valentine enjoy lunch on the McCracken Sandstone during mapping near Silverton, Colorado. Photo provided by Mark Helper.*

*Mapping Paleozoic strata in the high country near Silverton, Colorado. Photo provided by Mark Helper.*

The first week focused on carbonate rocks and reefs in the Guadalupe and Sacramento Mountains, New Mexico, with short trips to Carlsbad Caverns and White Sands. The emphasis shifted to fluvial and aeolian sediments of the San Juan Basin during the second week, with a camping stint at Ghost Ranch near Abiquiu, New Mexico, and a short stay at the dorms of Fort Lewis College in Durango, Colorado. A single-day mapping exercise near Silverton and a trip through the San Juan Mountains on the way north concluded the stay in Durango.

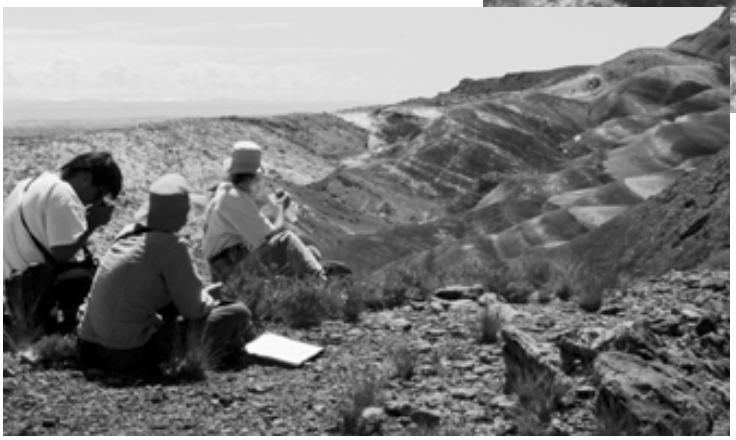
Following a stop at Dinosaur National Monument, Utah, the group traveled north through Wyoming, via Rocks Springs, South Pass, and the Wind River and Owl Creek Mountains to arrive at Greybull, on the western flank of the Big Horn Mountains. During their stay there, students mapped portions of the Sheep Mountain and Goose Egg Anticlines and viewed the thick-skinned structural style of the Big Horn Mountains on a 1-day trip through the range. A short trip westward brought the group to Yellowstone and Grand Teton National Parks where, while camped at Colter Bay, they spent 3 days examining the geology of the Yellowstone caldera and the neotectonic and glacial features of the Jackson Hole region.

From the parks, the class traveled northward to Canyon Ferry, near Helena, Montana, where students spent 9 days mapping and studying the thin-skinned fold and thrust belt geology of the Big Belt Mountains. A final project in the Pioneer Mountains, west of Melrose, Montana, focused on the geology of the Hecla mining district, once the largest silver district in Montana. Over a 4-day period, students documented, mapped, and reported on relationships among deformation, metamorphism, mineralization, and plutonism, and they speculated on orebody genesis and geometries within the same sequence of lower Paleozoic carbonates that they had mapped previously. The drive home from Montana allowed stops on the Snake River Plain near Idaho Falls, Idaho, on the Colorado Plateau at Provo, Arches National Monument in

Utah, and the Rio Grande Rift at Albuquerque, New Mexico.

Further details and photos from this and previous classes can be found at http://www.geo.utexas.edu/660. The same site will eventually contain alumni pages and a UT field camp history. I would appreciate your photos, reminiscences (in whatever form!), and suggestions.

*Professor Randall Marrett and students take in the geology of the Sheep Mountain area from atop a ridge of the Gypsum Springs Formation. Photo provided by Mark Helper.*



*(Left to right) Hubert Brown, Holly Nichols, and Jaime Barnes view the Morrison Formation at Sheep Mountain, Wyoming. Photo provided by Mark Helper.*

# Placement Office Update, 1998-1999

*by Miriam L. Pashby*

The 1998-1999 academic year was active for the Department of Geological Sciences Placement Office. Eighty-four students used the services, which were coordinated by Miriam Pashby, during the fall and spring semesters. Of these students, 27 were candidates for the B.S. or B.A. degrees, 32 for the M.S. or M.A. degrees, and 25 for the Ph.D. degree.

Thirty organizations interviewed on campus. Representatives from Amerada Hess, Amoco, Anadarko, ARCO, BP Exploration, Brigham Exploration, Burlington Resources, Chevron, Coastal Corporation, Conoco, Duke Engineering, Exxon Exploration, Exxon Production and Research, Fina Oil and Chemical Co., Marathon Oil, Maxus, Minerals Management Service, Mobil, Pennzoil, PGS Tensor, Phillips, Radian, Schlumberger, Texaco, Union Pacific, Unocal, Vastar, Veritas, and Western Geophysical visited the Department during the fall.

A survey was taken by the Placement Office, with 71 responses returned out of 84 mailed. According to this survey, 8 full-time positions and 13 summer jobs/internships were offered to undergraduates and graduate students by various companies this past year. The following salaries were offered by the companies interviewing through this office:

Full-time annual job salaries:

| | |
|---|---|
| B.S./B.A. | $40,000—$42,000 |
| M.S./M.A. | $51,600—$64,800 |
| Ph.D. | $46,800—$57,600 |

Summer job/internship salaries (monthly basis):

| | |
|---|---|
| B.S./B.A. | $3,000—$3,750 |
| M.S./M.A. | $3,600—$4,250 |
| Ph.D. | $4,000—$4,500 |

# Student Awards and Honors

The following students were presented awards at the Department of Geological Sciences Ceremony on May 6, 1999:

## Best Speaker Awards/ Technical Sessions:

**Georgios P. Tsoflias** (Ph.D., fall 1998) "Hydrogeologic Characterization of Fractured Carbonate Aquifers Using Ground-Penetrating Radar."

**Roy B. Luck** (M.S., fall 1998) "Structural Geology in the Grasberg Lime Quarry and Amole Drift—Implications for Emplacement of the Grasberg Intrusion, Irian Jaya, Indonesia."

**Jose I. Guzman Espinal** (Ph.D., spring 1999) "Miocene Stratigraphy of Northeastern Maracaibo Basin, Venezuela: Implications for Reservoir Heterogeneity Predictions in Tectonically-Active Settings."

**Laura Rico** (M.S., spring 1999) "Geometric and Kinematic Evolution of a Complete Detachment Fold in a Natural Cross Section."

Honorable Mention for Best Speakers Awards/Technical Sessions was given to **Pamela E. Owen** (Ph.D., fall 1998) and **Jonas P. Gournay**, and **David M. Hirsch** (Ph.D., spring 1999) and **Jeffrey S. Harrison** (M.S., spring 1999).

## Graduate Student Executive Committee Student Service Award:

**Cori A. Lambert**

## Outstanding Teaching Assistant Awards:

**Dennis P. Dunn**

**Dennis A. Sylvia**

## Petrography Awards:

**Justin A. Zumbro** (Graduate)

**Jonathan M. Skaggs** (Undergraduate)

## Estwing Hammer Award:

**Adrienne Barnett**

*Matthew M. Uliana (left) congratulates Laura Rico (right) on her receipt of the spring M.S. Best Speaker Award at Department ceremony on May 6, 1999.*

*Jonathan M. Skaggs, undergraduate (right), receives the Petrography award from Doug Smith (left) at Department ceremony on May 6, 1999.*

*Matthew M. Uliana (left) Chair of GSEC, presents Cori A. Lambert (right) the Graduate Student Executive Committee Student Service Award at Department ceremony on May 6, 1999.*

*Mark P. Cloos (left) with Dennis A. Sylvia (right) as Dennis receives the Outstanding Teaching Assistant Award at the Department ceremony on May 6, 1999.*

# Johanna A. Devereaux Receives AGU Award

In October 1998, Johanna A. Devereaux was awarded an Outstanding Student Paper Award by the American Geophysical Union (AGU) for her poster presentation at the December 1997 AGU fall meeting. The title of Johanna's poster was "Correlation of Remotely-Sensed Soil Moisture Content with Gravimetric and Impedance Probe Measurements at Two Sites during SGP97." The research presented was also the topic of her M.S. thesis, which she completed in December 1998.

Johanna had a distinguished graduate career while at UT. In addition to her AGU award, she also received honors for the best Technical Sessions presentation by a Master's student for the spring 1998 semester, and she received a Banks Fellowship during the fall 1998 semester. Johanna is currently employed at the Texas Natural Resource Conservation Commission.

*Johanna Devereaux*

# Karen I. D. Mohr Receives NASA Award

Karen I. D. Mohr, a Ph.D. candidate in the Department, has been awarded one of 160 graduate fellowships, which the National Aeronautics and Space Administration (NASA) awards each year in its Graduate Student Researchers Program (GSRP). The purpose of the GSRP is to cultivate research ties between NASA and the academic community and to support a diverse group of students pursuing advanced degrees in Earth and Space science and engineering. The award is $22,000 per year, renewable for 3 years.

In the GSRP, students collaborate with NASA scientists in their area of interest. Karen submitted a proposal entitled "A Study of Land/Atmosphere Interactions in the Development of Mesoscale Convective Systems" and will be working closely on this project with Dr. Wei-Kuo Tao of the Laboratory for Atmospheres, NASA-Goddard, Greenbelt, Maryland. Dr. Tao is well known for his development of sophisticated numerical cloud models and is a leader in exploring the connection between land surface and atmospheric processes in the development of clouds and precipitation.


*Karen I. D. Mohr*

Karen is originally from New Durham, a small town in central New Hampshire. In 1986, she earned a bachelor's degree in physics from College of the Holy Cross, Worcester, Massachusetts, and a second bachelor's degree in meteorology at Penn State University. From 1987 to 1991, Karen served in the U.S. Air Force as an aviation weather forecaster at duty stations in California and the Philippines. After leaving the Air Force, she worked as a meteorologist in the wind energy industry in California.

Karen returned to school in 1993, receiving a Master's degree in meteorology from Texas A&M University in 1995. Her research at Texas A&M involved studying the geographic distribution and characteristics (size, intensity, rainfall production) of mesoscale clusters of thunderstorms, called "mesoscale convective systems." Karen has found

that mesoscale convective systems are the most important precipitating systems in the global tropics, producing 70 percent of the rainfall, even though they make up only 20 percent of the population of precipitating clouds.

Attracted by the facilities and support in the Department, Karen came to UT to study surface hydrology under Jay Famiglietti. In the hydrology program, Karen has focused on learning heat and moisture exchange at the surface and in the vadose zone. Armed with this knowledge and under Jay's guidance, she will be using Dr. Tao's numerical models to simulate land-atmosphere interaction and its role in cloud formation. She hopes that her simulations will identify and characterize the important processes responsible for the development of strong continental mesoscale convective systems. This work should improve not only the prediction of these important precipitating systems but also our understanding of how the land-atmosphere interaction affects the generation and distribution of clouds and rainfall in general. We congratulate Karen on receiving this fine award.

# Matthew Rodell Awarded NASA Earth System Science Fellowship

*Matthew Rodell*

The National Aeronautics and Space Administration (NASA) offers approximately 50 fellowships each year to graduate students who have submitted outstanding proposals to the Earth System Science (ESS) program. They provide for tuition, expenses, and a stipend, totaling $22,000 per year, renewable for up to 3 years. In July of 1998, Matthew Rodell was awarded a NASA ESS Fellowship on the basis of his proposal entitled "Estimating Changes in Continental Water Storage from Satellite Observations of the Time-Dependent Gravity Field."

Born in New York City, Matt spent his youth in Connecticut, where he grew to love the outdoors. He earned a Bachelor's degree in Environmental Science from College of William and Mary in Virginia and then worked for an environmental consulting firm in New Jersey before matriculating at UT in 1995. Prior to receiving the NASA Traineeship Matt was supported by a National Science Foundation traineeship bestowed by his advisor, Jay Famiglietti.

# Marcia L. Branstetter Receives Graduate Fellowship

The U.S. Department of Energy recently started a graduate fellowship program from its Office of Biological and Environmental Research (OBER). Marcia L. Branstetter, a Ph.D. candidate in UT's Department of Geological Sciences, has been chosen for appointment to the Global Change Education Program (GCEP) Graduate Research Environmental Fellowship (GREF). Marcia is one of 26 graduate students to be awarded this $22,000 fellowship.

The GREF project involves collaborative research between universities and national laboratories. The students have two mentors: the university thesis advisor and a national laboratory researcher. Marcia will be working with Dr. Warren Washington from the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, on her research to investigate the effect of continental runoff on climate dynamics using a parallel earth system model. Dr. Washington has expertise in

atmospheric science and climate research and was one of the first to recognize the importance of the use of massively parallel computers in climate modeling.

Marcia was born in Denver, Colorado, but grew up in Texas, after her family moved to Georgetown. She graduated magna cum laude from Southwestern University in Georgetown with a Bachelor of Science degree in mathematics in 1986. She obtained a Master of Arts degree in mathematics from The University of Texas at Austin in 1995. While pursuing her Master's degree, Marcia focused on mathematical physics and parallel computation. Interested in applying this to real-world problems such as climate research, Marcia went to work on global hydrology under the supervision of Professor Jay Famiglietti in the Department of Geological Sciences. Part of Dr. Famiglietti's group is working on the development of a global land hydrology model in cooperation with NCAR. Marcia's development of a parallel river transport algorithm is part of this effort. Her parallel river transport model has been coupled to Dr. Washington's DOE/NCAR Parallel Climate Model (PCM), and she will use this coupled model to study the effects of continental runoff on the climate system.

*Marcia L. Branstetter*

# Orlando J. Ortega Receives Minority Outreach Program Scholarship

*by Randy Marrett*

*Orlando J. Ortega*

Orlando J. Ortega (M.S., 1997, Ph.D. Candidate, 1998) was awarded the 1998 Minority Outreach Program Scholarship ($2,000) from Chevron Corporation, in recognition of his outstanding academic and personal achievement. Greg Matiuk, Vice President of Human Resources and Quality at Chevron Corporation, presented the award. Orlando also worked for Chevron during the summer of 1998, evaluating exploration opportunities in Cretaceous reservoirs of the Maracaibo Basin, Venezuela.

Orlando's dissertation research focuses on characterization of fracture systems. He currently is finishing work on fractures in sandstone outcrops of the Weber Formation. near Rangely Field in northwestern Colorado and in sandstone cores of the Ozona Sandstone from West Texas. Last fall, Orlando initiated field work on fracture systems in limestones of the Cupido Formation in northeastern Mexico.

# Calvin A. Lee Receives Goldwater Scholarship

*by Leon Long*

The Barry M. Goldwater Scholarship is known as "the nation's premier undergraduate award of its type in mathematics, the natural sciences, and engineering." Most recently this, the most prestigious of all scholarships, which carries an annual $7,500 stipend, was granted to only 285 students across the country. We are delighted that our own Calvin A. Lee was a winner. He was the only awardee at The University of Texas at Austin with its more than 8,000 undergraduates majoring in math or natural science, and more than 4,000 majors in engineering. Because Calvin will be a junior in the fall semester, his award will continue for a second year.

*Calvin A. Lee*

Calvin was born in Toronto, where his folks had immigrated to from Hong Kong, later to move to Houston, Texas. One of his vivid childhood memories is the deep trouble he got into at age 7 for smashing boulders against the side of the schoolhouse just to see what was inside of them. (This is substantiating evidence that becoming a geologist is predetermined at birth by one's genetic code.) At UT, Calvin is pursuing two complementary pathways for which anatomy is the common theme. He is doing research with Chris Bell, probing inside the skulls of Pleistocene lizards from cave deposits in Nevada. Living in Houston has provided an unusual opportunity, now for the third straight year, for Calvin to participate in competitive summer programs in the medical complex there. His acquaintance with anatomy is definitely hands-on!

Calvin has been a leader in student organizations both locally and nationally since coming to UT. Of course, his GPA is way up there in the stratosphere, and the Goldwater Scholarship was by no means his first (nor will it be the last) in his string of awards. And besides all that, Calvin does volunteer work at hospitals and elsewhere and is into piano and composing. Calvin, you are a person of many talents, and we are proud of you.

# Jaime D. Barnes Receives UT Endowed Presidential Scholarship

*by Leon Long*

Among the many benefits provided by the Geology Foundation are scholarships for our undergraduates, including several distinguished Endowed Presidential Scholarships (EPS's). The University of Texas at Austin, as an entity, also funds EPS's and invites the departments to nominate excellent students in numbers according to the size of the department. Geological Sciences was allocated one "slot." We nominated Jaime D. Barnes, and she was a winner in this highly rarefied competition. This is the most recent in a long series of honors and awards given to her.

Jaime comes from an academic family in San Antonio, Texas. She has known that she would be a geologist at least since the sixth grade, when she requested a rock tumbler for Christmas. She brings a near-perfect GPA toward her graduation in May 2000, followed by graduate school, probably in metamorphic petrology. (She works with Bill Carlson in the microprobe lab.) Jaime is fascinated not only with science, but as a Plan II major, she carries a killer course load, which also includes heavy emphasis on literature and philosophy. She's your all-around good scholar. Congratulations, Jamie!


*Jamie D. Barnes*

# Students Receive University Co-Operative Society Undergraduate Research Fellowships

**Deanna M. Combs** was the spring recipient of The University of Texas at Austin University Co-Operative Society Undergraduate Research Fellowship in the amount of $1,000 in order to help fund her research endeavors. Deanna's research involves (1) the study of the growth rates of speleothems from Cave Without A Name in Kendall County, Texas, using uranium-thorium disequilibrium techniques; and (2) the use of carbon and oxygen composition of the speleothems in order to assess past environmental change in this region. This research is part of a larger study of paleoenvironments associated with the Edwards aquifer of the Central Texas region being undertaken by Jay Banner and his students. This project has afforded Deanna the opportunity to learn clean-lab chemical separation procedures and the operation of the Department's thermal ionization and isotope ratio mass spectrometers in order to measure the isotopic compositions of uranium, thorium, carbon, and oxygen in the speleothems.

Deanna was born in San Juan, Puerto Rico, and moved often as a child since her father was in the military. Her family settled finally in Round Rock, Texas, during her freshman year in high school, and she is a graduate of Round Rock High School. She completed her B.S. degree in Biology (Evolution, Ecology, Conservation) at the end of the spring semester and will complete her B.S. degree in Geology at the end of the summer semester of this year. She plans to attend graduate school beginning Spring 2000 studying the isotope ratios of both marine and terrestrial carbonate systems in the hopes of understanding past and current environmental and climate change with the ultimate goal of better understanding the impact these changes have on global faunal populations.

*Deanna M. Combs*

**Romy D. Schneider** is a senior pursuing a Bachelor of Science in Geophysics and will graduate in December of 1999. She received an Undergraduate Research Fellowship from The University of Texas in Austin in order to fund research for her Senior Honors Thesis under the supervision of Dr. William Carlson. Using the new high-resolution X-ray Computed Tomography (CT) facility in the Department, they examined the three-dimensional spatial distribution of garnet porphyroblasts in a high-pressure, low-temperature metamorphic rock. These data were then analyzed in order to determine the dominant nucleation and growth mechanism of the crystals on geological time scales.

**Andria L. Bilich** and **Adrienne E. Barnett** also received The University of Texas at Austin University Co-Operative Society Undergraduate Research Fellowships.

# Student Officers for Fall 1998 and Spring 1999

## Graduate Student Executive Committee (GSEC):

| | |
|---|---|
| Chair | Matthew M. Uliana |
| Vice Chair | Thomas E. Miskelly |
| Secretary | Jean-Paul Van Gestel |
| Treasurer | Tony J. Troutman |
| Board Member at Large | James J. Corboy |
| Board Member at Large | Timothy A. Meckel |
| Board Member at Large | Michelle A. Roth |

## American Association of Petroleum Geologists, Student Chapter (AAPG):

| | |
|---|---|
| President | Russell R. Hamman |
| Vice President | Dennis Scott Settemeyer |
| Secretary | Jonathan M. Skaggs |
| Treasurer | Jonathan M. Skaggs |

## Undergraduate Student Geological Society (USGS):

| | |
|---|---|
| President | Andria L. Bilich |
| Vice President | Sherri K. Randal |
| Treasurer | Danielle E. Schleman |
| Secretary | Brian B. Andres |
| Webmaster | Donald A. Campbell |
| Public Relations | Christopher B. Strganac |

## University of Texas Geophysical Society (SEG):

Not active

# Graduate Student Executive Committee

*by Matthew M. Uliana*

In the 1998-1999 school year, the Graduate Student Executive Committee (GSEC) performed another season of service to the graduate students of our Department. Our primary goals for the year mirrored those of the past, as we concentrated on strengthening our ties to the community, as well as to each other, through social events and volunteer work within and outside of the Department. To this end, the members of GSEC contributed their time and efforts faithfully, even in the face of the everyday struggles that make up the life of a graduate student.

Once again, GSEC organized the hosting of visiting prospective graduate students. Vice-Chairman Thomas Miskelly and At-Large Member Timothy "Tip" Meckel took the lead in coordinating the visits, arranging student hosts and rides to and from the airport, scheduling meetings with faculty, and planning activities for the prospective grad students. These activities included tours of the Department, the campus, and the city; visits to the Bureau of Economic Geology, the Institute for Geophysics, and the Vertebrate Paleontology Lab; meals at local restaurants; a reception barbecue and party; and a trip to Amy's Ice Cream. A total of 21 prospective students visited our Department, met with faculty and students, and took part in the Prospective Student Program. Feedback from the prospective students was very positive; all enjoyed their visits and appreciated the efforts of GSEC and the other graduate students in planning and organizing their visits.

GSEC was also involved in the Department's Outreach Program, a program that brings graduate students into contact with local secondary teachers and classrooms and gives them the opportunity to share their knowledge and experience with those teachers and students. GSEC At-Large member James Corboy was directly involved in the program, assisting Department of Geological Sciences' professor Leon Long and graduate student Courtney Turich in contacting teachers, organizing classroom visits, obtaining supplies, and taking part in classroom presentations. GSEC also helped the program by raising awareness and soliciting volunteers in the Department, obtaining rock and mineral samples for the presentations, and investigating possible funding sources for purchasing supplies. To date, the Outreach Program has been a success, and the interaction between the graduate students in our Department and secondary teachers and students in Austin has been beneficial to all.

In addition to visits to local schools, the Outreach Program and GSEC also took part in the Austin Science Fun Day and UT Interactive, held on Saturday, March 6, 1999. This was an all-day event, free and open to the public, in which departments all over The University prepared over 470 exhibits, demonstrations, lectures, tours, and other interactive activities. I personally volunteered my time to the lecture series offered by several researchers from the College of Natural Sciences (including Department of Geological Sciences' Professor Tim Rowe) by providing assistance with the audiovisual facilities in the lecture hall. Other members of the Outreach Program and GSEC, as well as other graduate student volunteers, helped out at the paleontology exhibits at the Texas Memorial Museum by preparing displays and offering their expertise to the people in attendance. Overall, the day was a great success, drawing thousands of people to the campus and demonstrating the wealth of science, technology, art, and educational experiences that make up our University.

GSEC also offered its assistance to the Lundelius Symposium on Quaternary Vertebrate Paleontology, held in the Geology Building on November 13, 1998. This symposium was convened to honor Dr. Ernie Lundelius, Professor of Vertebrate Paleontology, who retired from our Department in August of 1998. Members of GSEC, along with other volunteer graduate students from the Department, offered their assistance at a reception held at the Texas Memorial Museum following the symposium. The symposium turned out to be a big success and was a fitting tribute to a highly influential and prolific scientist who built one of the finest vertebrate paleontology programs in the country.

GSEC continued its involvement with the Graduate Student Assembly (GSA), a university-wide group dedicated to issues that affect the rights and quality of life of graduate students at The University of Texas at Austin. GSEC Vice-Chairman Thomas Miskelly acted as our departmental representative to GSA by attending the monthly meetings, reporting on actions and discussions of the assembly, and representing the concerns and interests of our Department. The primary issue of concern to GSA this year was H.B. 315, a bill before the Texas State Legislature that grants tuition waivers to teaching and research assistants at state universities. Other issues include exemption from FICA tax withholding for teaching/research assistants, TA/RA pay scales and benefits, and university support for graduate students. One of GSA's goals in addressing the tuition waiver

issue was to demonstrate to the State Legislature that graduate students play an important role in their communities; thus, allocating funds for tuition waivers is a worthwhile use of state money. GSEC assisted GSA in this endeavor by obtaining letters from local teachers and others who benefited from the Outreach Program and the graduate students involved in the program, and forwarding these letters to GSA. Although H.B. 315 has passed the House Committee for Higher Education, as of the end of the spring 1999 semester, it still has a number of hurdles to overcome, including the Appropriations Committee and a general vote on the House Floor. However, GSA and GSEC remain optimistic that it will pass.

Recently, we have begun to take steps towards reviving the Department's chapter of Sigma Gamma Epsilon, the National Honor Society for the Earth Sciences. Graduate student (and former GSEC Chairman) Jason Lundquist initiated the process by contacting GSEC, informing us of the existence of our Department's chapter, and soliciting interest from the graduate and undergraduate students in the Department. We have received significant interest from the rest of the Department in reviving our chapter, and we feel confident that an active UT/Austin Sigma Gamma Epsilon chapter will be in place in the fall.

In addition to the previously discussed items, we also found the time to start a GSEC Web site (http://www.geo.utexas.edu/geosec), update the Graduate Student Thesis Board on the third floor of the Geology Building, hold a meeting with the undergraduates to discuss (and offer advice about) attending graduate school, and assist Jennifer Roberts Rogers with the departmental blood drives held each semester. Finally, we managed to squeeze in a number of social events, including a Halloween party at GSEC Secretary Jean-Paul van Gestel's house and the traditional Final Bedlam festivities held at the end of the spring term. Overall, it was a successful year for the Graduate Student Executive Committee, and through our actions, we have once again secured our legacy as a faithful servant to the citizens of the Department of Geological Sciences.

# Graduate Fellowships, Scholarships, and Awards

### Amoco Foundation, Inc. Scholarship

| | |
|---|---|
| Jinghua Chen | Spring 1999 |
| Jonas P. Gournay | 1998-1999 |

### Mary and Ben Anderson Endowment for Graduate Studies in Geology

| | |
|---|---|
| Susan D. Anderson | Summer 1999 |

### Thomas R. Banks Memorial Scholarship

| | |
|---|---|
| Johanna A. Devereaux | Fall 1998 |
| Laura L. Faulkenberry | Fall 1998 |
| Jeffery S. Harrison | Spring 1999 |
| David M. Hirsch | Spring 1999 |
| Pamela R. Owen | Fall 1998 |
| Laura Rico | Fall 1998 |
| Georgios P. Tsoflias | Fall 1998 |

### Laura Thomson Barrow Graduate Fellowship

| | |
|---|---|
| Joy D. Griffin | Summer 1999 |
| Staci L. Loewy | Spring 1999 |
| Brook C. D. Riley | Summer 1999 |

### Leonidas T. Barrow Centennial Chair in Mineral Resources Scholarship

| | |
|---|---|
| Gundogan Coskun | Fall 1998 |
| Dennis A. Sylvia | Spring 1999 |

### Wayne Franklin Bowman Endowed Presidential Scholarship

| | |
|---|---|
| Jonas P. Gournay | Fall 1998 |

### British Petroleum Exploration Scholarship

| | |
|---|---|
| Jason G. John | Fall 1998 |

### Jesse L. Brundrett Endowed Presidential Scholarship

| | |
|---|---|
| Jonas P. Gournay | Spring 1999 |
| Michael T. Landrum | Fall 1998 |

### Hal H. Bybee Memorial Fund

| | |
|---|---|
| Jonas P. Gournay | Spring 1999 |
| Eugene M. Kim | Fall 1998 |

### Dorothy Ogden Carsey Memorial Scholarship Fund

| | |
|---|---|
| Jason J. Lundquist | Spring 1999 |

### Chevron USA, Inc. Scholarship

| | |
|---|---|
| Brian B. Hunt | Spring 1999 |
| Brook C. D. Riley | Fall 1998 |

### Joseph S. Cullinan Scholarship in Geological Sciences

| | |
|---|---|
| Michael T. Landrum | Fall 1998 |

### Robert H. Cuyler Endowed Presidential Scholarship

| | |
|---|---|
| Mark R. Ulrich | Spring 1999 |

### Ronald K. DeFord Field Scholarship Fund

| | |
|---|---|
| Kirk Chatawanich | Summer 1999 |
| Joy D. Griffin | Spring 1999 |
| C. Norman Hansen | Spring 1999 |
| C. Norman Hansen | Summer 1999 |
| Joel H. Le Calvez | Summer 1999 |

| | |
|---|---|
| Staci L. Loewy | Summer 1999 |
| Christopher R. McFarlane | Summer 1999 |
| Timothy A. Meckel | Spring 1999 |
| Dennis R. Ruez | Summer 1999 |
| Matthew M. Uliana | Spring 1999 |

## Michael Bruce Duchin Centennial Memorial Endowed Presidential Scholarship

| | |
|---|---|
| Stephen W. Grimes | Spring 1999 |
| Michael T. Landrum | Fall 1998 |

## Getty Oil Company Centennial Chair in Geological Sciences

| | |
|---|---|
| Kirk Chatawanich | Summer 1999 |
| Brook C. D. Riley | Summer 1999 |

## J. Nalle Gregory Chair in Sedimentary Geology

| | |
|---|---|
| Rogerio S. Souza | Spring 1999 |
| Rogerio S. Souza | Summer 1999 |
| Ricardo Torres Vargas | Fall 1998 |

## J. Nalle Gregory Regents Professorship in Geological Sciences

| | |
|---|---|
| Pamela R. Owen | Spring 1999 |

## F. Earl Ingerson Graduate Research Assistance Fund in Geochemistry

| | |
|---|---|
| Justin A. Zumbro | Summer 1999 |

## J. Hoover Mackin Memorial Scholarship Fund

| | |
|---|---|
| Susan D. Anderson | Summer 1999 |
| David M. Hirsch | Summer 1999 |
| Michael T. Landrum | Fall 1998 |

## George W. Marshall, Jr. Memorial Endowed Presidential Scholarship

| | |
|---|---|
| Stephen T. Graham | Spring 1999 |
| Stephen W. Grimes | Spring 1999 |
| Michael T. Landrum | Fall 1998 |

## Mobil Foundation, Inc. Fellowship

| | |
|---|---|
| Cory L. Hoffman | Spring 1999 |
| Lyndon K. Murray | Fall 1998 |
| Dennis R. Ruez | Fall 1998 |
| Ronald S. Tykoski | Fall 1998 |

## William R. Muehlberger Field Geology Scholarship Fund

| | |
|---|---|
| Juan C. Bermudez Santana | Summer 1999 |
| Kaveh Khorzad | Summer 1999 |
| Dennis A. Sylvia | Summer 1999 |

## Pennzoil and Pogo Producing Companies-William E. Gipson Scholarships

| | |
|---|---|
| Brian B. Hunt | Fall 1998 |

## Phillips Petroleum Company Fellowship

| | |
|---|---|
| Joel H. Le Calvez | 1998-1999 |
| Anubrati Mukherjee | 1998-1999 |

## Louis and Elizabeth Scherck Geology Scholarship

| | |
|---|---|
| Laura L. Faulkenberry | Summer 1999 |
| Michael T. Landrum | Fall 1998 |
| Karen I. D. Mohr | Fall 1998 |
| Karen I. D. Mohr | Spring 1999 |

## Scholarships and Meeting Support, Various Donors

| | |
|---|---|
| Adrian C. Badescu | Spring 1999 |
| Jorge Barrios Rivera | Spring 1999 |
| Jaime O. Castillo | Spring 1999 |
| Donna L. Cathro | Spring 1999 |
| Ricardo Combellas Bigott | Spring 1999 |
| Bruno Courme | Spring 1999 |
| Kara R. Dotter | Spring 1999 |
| Laura L. Faulkenberry | Spring 1999 |
| Thomas R. Fenstemaker | Spring 1999 |
| Carlos J. Fimlay | Spring 1999 |
| Pedro T. Gomez-Cabrera | Spring 1999 |
| Joy D. Griffin | Spring 1999 |
| Russell R. Hamman | Spring 1999 |
| Jose J.Hernandez-Mendosa | Spring 1999 |
| Wade D. Hutchings | Spring 1999 |
| Elsa J. Jaimes | Spring 1999 |
| Kaveh Khorzad | Spring 1999 |
| Adrian Lobo | Spring 1999 |
| Thomas E. Miskelly | Spring 1999 |
| Javier G. Moros | Spring 1999 |
| Claudia Rassi | Spring 1999 |
| Sunday K. Shepherd | Spring 1999 |
| Rogerio S. Souza | Spring 1999 |

## Walter Benona Sharp Memorial Scholarship in Geological Sciences

| | |
|---|---|
| Jonas P. Gournay | Fall 1998 |

## William T. Stokes Centennial Teaching Fellowship in Geological Sciences

| | |
|---|---|
| Suk-Joo S. Choh | Fall 1998 |
| Jason G. John | Spring 1999 |
| Ina Pavlova | Spring 1999 |
| Ina Pavlova | Summer 1999 |

## Harlan Tod Sutherland Memorial Scholarship Fund

| | |
|---|---|
| April M. Hoh | Summer 1999 |
| D. Shane Valentine | Summer 1999 |

## John and Elizabeth M. Teagle Scholarship in Petroleum Geology

| | |
|---|---|
| Kirk Chatawanich | Fall 1998 |
| Gerald Grellet-Tinner | Spring 1999 |
| Laura Rico | Spring 1999 |
| Clark Thompson | Fall 1998 |
| Jean-Paul Van Gestel | Fall 1998 |

## Texaco, Inc. Scholarship

| | |
|---|---|
| Laura L. Faulkenberry | Summer 1999 |
| Jason G. John | Fall 1998 |
| Qunling Liu | Summer 1999 |
| Jason J. Lundquist | Spring 1999 |
| Courtney H. Turich | Spring 1999 |

## Vastar Resources, Inc. Scholarship

| | |
|---|---|
| Brian B. Hunt | Fall 1998 |

## Albert W. and Alice M. Weeks Fund in Geology

| | |
|---|---|
| Michael H. Bradley | Fall 1998 |
| Stephen A. Clark | Fall 1998 |
| Dennis P. Dunn | Fall 1998 |
| Mulugeta Y. Feseha | Fall 1998 |
| Ayati Ghosh | Fall 1998 |
| Jonas P. Gournay | Summer 1999 |
| Stephen T. Graham | Fall 1998 |
| Gerald Grellet-Tinner | Fall 1998 |
| Todd Halihan | Spring 1999 |
| Jeffery S. Harrison | Fall 1998 |
| Gavin L. Hudgeons | Fall 1998 |
| Cori A. Lambert | Fall 1998 |
| Thomas E. Macrini | Fall 1998 |
| Christopher R. McFarlane | Fall 1998 |
| MaryLynn Musgrove | Summer 1999 |
| Michelle A. Roth | Fall 1998 |
| Courtney H. Turich | Fall 1998 |
| Matthew M. Uliana | Fall 1998 |
| Chengshu Wang | Spring 1999 |
| Justin A. Zumbro | Fall 1998 |

## Arno P. (Dutch) Wendler Professional Development Fund

| | |
|---|---|
| Juan C. Bermudez Santana | Spring 1999 |
| Laura L. Faulkenberry | Fall 1998 |
| Thomas R. Fenstemaker | Fall 1998 |
| Gerald Grellet-Tinner | Fall 1998 |
| Karen I. D. Mohr | Fall 1998 |
| MaryLynn Musgrove | Fall 1998 |
| MaryLynn Musgrove | Summer 1999 |
| Pamela R. Owen | Fall 1998 |
| Jennifer E. Piontek | Fall 1998 |
| Terry L. Ramsey | Fall 1998 |
| Jason W. Rush | Fall 1998 |
| R. Brian Schlottmann | Fall 1998 |
| Tony J. Troutman | Spring 1999 |
| Matthew M. Uliana | Fall 1998 |
| Norman G. Van Broekhoven | Fall 1998 |
| Karah L. Wertz | Spring 1999 |
| Christopher K. Zahm | Fall 1998 |
| Justin A. Zumbro | Spring 1999 |

# Scholarships, Fellowships, and Grants from Other Agencies

## American Association of Petroleum Geologists Grants-in-Aid, 1999

Joy D. Griffin

## American Federation of Mineralogical Societies Scholarship Foundation, 1998-1999

Susan D. Anderson
Rion H. Camerlo
David M. Hirsch
Cori A. Lambert
Pamela R. Owen
Justin A. Zumbro

## Chevron Minority Outreach Program Scholarship, 1998

Orlando J. Ortega

## Environmental Protection Agency Science to Achieve Results, 1998-1999

MaryLynn Musgrove

## Geological Society of America Research Grants, 1998-1999

Todd Halihan
Kaveh Khorzad
Christopher R. McFarlane

## NASA Fellowship, 1998-1999

Marcia L. Branstetter
Stephen T. Graham
Matthew Rodell

## National Science Foundation Graduate Research Traineeships, 1998-1999

William H. Asquith
Todd Halihan
Ian C. Jones
Mary S. Lear
Karen I. D. Mohr
Jennifer Roberts Rogers
Rosario Vasquez Scheerhorn

## Society of Independent Professional Earth Scientists, 1998-1999

Junru Jiao
Helena H. Zirczy

## UT Austin Graduate School Tuition Fellowship, 1998-1999

Karen I. D. Mohr

*Field trip to the Sierra Madre Oriental, Mexico, for GEO 381E (Brittle Structure) and 1999 annual AAPG meeting. Randy Marrett (center, with hat) explains the regional structure and tectonics of the fold-thrust belt. Photo provided by Randy Marrett.*

# Undergraduate Scholarships and Awards

## Thomas R. Banks Memorial Scholarship

| | |
|---|---|
| Amy M. Balanoff | 1998-1999 |
| Jamie D. Barnes | 1998-1999 |
| Eleanor J. Camann | 1998-1999 |
| Brenda D. Koch | 1998-1999 |
| Barbara L. Lorenzo-Rigney | 1998-1999 |
| Angela D. Masloff | 1998-1999 |
| Romy D. Schneider | 1998-1999 |

## Bloomer Fund for Motivated Students

| | |
|---|---|
| Iliana M. Delgado | Spring 1999 |
| Jennifer J. Garcia | Summer 1999 |
| Kimberly G. Rogers | 1998-1999 |
| Edward R. Rutledge | Fall 1998 |
| Stephanie D. Wise | Spring 1999 |
| Stephanie D. Wise | Summer 1999 |

## Wayne Franklin Bowman Endowed Presidential Scholarship

| | |
|---|---|
| Adrienne Barnett | Fall 1998 |
| Kristie L. Persky | Fall 1998 |

## Brahman Energy Company Scholarship

| | |
|---|---|
| Jennifer L. Weber | Summer 1999 |

## Thomas and Ray Burke Student Job Program

| | |
|---|---|
| Scott W. Bale | Summer 1999 |
| Calla K. Smith-Dowling | Fall 1998 |

## Burlington Resources Foundation Scholarship

| | |
|---|---|
| Brian B. Andres | Spring 1999 |
| Brian B. Andres | Summer 1999 |
| Amy M. Balanoff | Summer 1999 |
| Jamie D. Barnes | Summer 1999 |
| Rebecca M. DeGroot | Summer 1999 |
| Thomas A. Golden | Spring 1999 |
| Thomas A. Golden | Summer 1999 |
| William J. McCarthy | Spring 1999 |
| Sherri K. Randall | Summer 1999 |

## Dorothy Ogden Carsey Memorial Scholarship Fund

| | |
|---|---|
| Dennis S. Settemeyer | Fall 1998 |

## W. Kenley Clark Memorial Endowed Presidential Scholarship

| | |
|---|---|
| Adrienne Barnett | Spring 1999 |
| Fabienne M. Grellet-Tinner | Spring 1999 |
| Emily L. Lu | Spring 1999 |

## Robert H. Cuyler Endowed Presidential Scholarship

| | |
|---|---|
| Kristie L. Persky | Spring 1999 |

## Guy E. Green Endowed Presidential Scholarship

| | |
|---|---|
| Thomas A. Golden | Summer 1999 |
| Fabienne M. Grellet-Tinner | 1998-1999 |

## Karl Frederick Hagemeier, Jr. Memorial Endowed Presidential Scholarship

| | |
|---|---|
| Emily L. Lu | Fall 1998 |
| Kristie L. Persky | Spring 1999 |

## Bill D. Holland Endowed Presidential Scholarship in Geological Sciences

| | |
|---|---|
| Adrienne Barnett | Fall 1998 |

## Allen C. and Nancy Locklin Scholarship

| | |
|---|---|
| Douglas S. Sassen | Spring 1999 |

## Marathon Oil Company Scholarship

| | |
|---|---|
| Brenda D. Koch | Summer 1999 |
| Jim O. Vasquez | Summer 1999 |

## John H. and Lujza McCammon Endowed Scholarship

| | |
|---|---|
| Amy M. Balanoff | Fall 1998 |
| Jamie D. Barnes | Fall 1998 |

## Mr. and Mrs. L. F. McCollum Scholarship in Geology

| | |
|---|---|
| Thomas A. Golden | Fall 1998 |
| Thomas A. Golden | Summer 1999 |
| Heather R. Good | Fall 1998 |

## Michaux Scholarship Fund

| | |
|---|---|
| Jeff B. Gipson | Fall 1998 |

## Joan A. Middleton Endowed Scholarship in Geology

| | |
|---|---|
| David P. Rodriguez | Spring 1999 |
| Brian M. Whitenight | Fall 1998 |

## Carroll C. Miller Endowed Presidential Scholarship

| | |
|---|---|
| Amy M. Balanoff | Spring 1999 |
| Jamie D. Barnes | Spring 1999 |
| Brenda D. Koch | Spring 1999 |
| Barbara L. Lorenzo-Rigney | Spring 1999 |

## Wes Ogden Memorial Scholarship in Geophysics

| | |
|---|---|
| Brian M. Whitenight | Fall 1998 |

## Phillips Petroleum Company Scholarship

| | |
|---|---|
| Brian B. Andres | Summer 1999 |
| Amy M. Balanoff | Summer 1999 |
| Rebecca M. DeGroot | Summer 1999 |
| Jennifer L. Delk | Summer 1999 |
| Leighton L. Devine | Summer 1999 |
| Robert L. Dixon | Summer 1999 |
| Rebecca A. Fusee | Summer 1999 |
| Jeff B. Gipson | Summer 1999 |
| Michael S. Jaffre | Summer 1999 |
| Sherri K. Randall | Summer 1999 |
| Douglas S. Sassen | Summer 1999 |
| Danielle E. Schleman | Summer 1999 |
| Raphael M. Schmitz | Summer 1999 |
| Aubrey L. Waddail | Summer 1999 |

## Louis and Elizabeth Scherck Geology Scholarship

| | |
|---|---|
| Jennifer K. Dickinson | Summer 1999 |
| Thomas A. Golden | Summer 1999 |
| Matthew M. Lake | Summer 1999 |
| Barbara L. Lorenzo-Rigney | Summer 1999 |
| Angela D. Masloff | Fall 1998 |

## Scholarships and Meeting Support, Various Donors

| | |
|---|---|
| Jonathan M. Skaggs | Spring 1999 |

## F. W. Simonds Endowed Presidential Scholarship in Geological Sciences

| | |
|---|---|
| Brenda D. Koch | Fall 1998 |
| Barbara L. Lorenzo-Rigney | 1998-1999 |
| Romy D. Schneider | 1998-1999 |

## Society of Independent Professional Earth Scientists Scholarship

| | |
|---|---|
| Jennifer J. Garcia | Summer 1999 |

## John and Elizabeth M. Teagle Scholarship in Petroleum Geology

| | |
|---|---|
| Jennifer K. Dickinson | Spring 1999 |
| Heather R. Good | Spring 1999 |
| Kimberly D. Gordon | Spring 1999 |
| Ross J. Holden | Spring 1999 |
| John N. Hooker | Spring 1999 |
| Karianne M. Leikam | Spring 1999 |
| Frank R. McGilvery | Spring 1999 |
| Christopher P. Riley | Summer 1999 |
| Vicki F. Rummel | Spring 1999 |
| Dennis S. Settemeyer | Spring 1999 |
| Taylor T. Tran | Spring 1999 |

## Texaco, Inc. Scholarship

| | |
|---|---|
| Eleanor J. Camann | Summer 1999 |
| Calvin A. Lee | Fall 1998 |
| Christopher B. Strganac | Fall 1998 |

## David S. Thayer Memorial Scholarship Fund

| | |
|---|---|
| Sunny B. Simpkins | Summer 1999 |
| Jim O. Vasquez | Summer 1999 |

## Udden Memorial Scholarship Fund

| | |
|---|---|
| Gregory A. Hodge | Fall 1998 |

## Unocal Corporation Scholarship

| | |
|---|---|
| Heather R. Good | Fall 1998 |
| Tammi S. Kennedy | Fall 1998 |
| Charna E. Meth | Fall 1998 |

## Glenn and Martha Vargas Gemological Scholarship in Geological Sciences

| | |
|---|---|
| Brian B. Andres | Fall 1998 |

## Albert W. and Alice M. Weeks Fund in Geology

| | |
|---|---|
| Thomas A. Golden | Summer 1999 |
| Heather R. Good | Summer 1999 |
| Gregory A. Hodge | Summer 1999 |
| Calvin A. Lee | Spring 1999 |
| Charna E. Meth | Spring 1999 |
| Charna E. Meth | Summer 1999 |
| Holly J. Nichols | Summer 1999 |
| Eric R. North | Summer 1999 |
| D. Bryan Pairsh | Spring 1999 |
| Garner J. Peterson | Summer 1999 |
| David P. Rodriguez | Spring 1999 |
| Douglas S. Sassen | Summer 1999 |
| Christopher B. Strganac | Spring 1999 |

## Francis L. Whitney Endowed Presidential Scholarship

| | |
|---|---|
| Fabienne M. Grellet-Tinner | Spring 1999 |

## Addison A. and Mary E. Wilkinson Endowed Presidential Scholarship in Geological Sciences

| | |
|---|---|
| Eleanor J. Camman | 1998-1999 |

## Charles E. Yager Undergraduate Field Scholarship Fund

| | |
|---|---|
| Jennifer L. Delk | Summer 1999 |
| Robert L. Dixon | Summer 1999 |
| Rebecca A. Fusee | Summer 1999 |
| Jeff B. Gipson | Summer 1999 |
| Kristie L. Persky | Summer 1999 |

# Scholarships & Fellowships from Other Agencies

## University Co-Operative Society Undergraduate Research Fellowship, 1998-1999

Adrienne E. Barnett
Andria L. Bilich
Deanna M. Combs
Romy D. Schnieder

*Hamilton locality in 1963-fossil vertebrate locality in western Victoria, Australia. Fossils recovered from zone under the lava flow dated 4.45 million years. Pictured is Mr. George Pelchen, the landowner in Hamilton, Victoria. Photo provided by Ernest L. Lundelius.*

# Degrees Awarded

## Graduate Degrees in Geological Sciences Conferred by The University of Texas at Austin, 1998-1999

### Master of Science, August 1998 (3)

**Royer, Stephen A.**
B.S., Geology, 1996, Brigham Young University
Ice-Dominated Deltas: The Effects of Ice Cover on Deltaic Sedimentation, Later Permian of the Sydney Basin, Australia
Supervisor: William E. Galloway
Committee Members: William L. Fisher, Douglas S. Hamilton

**Sagebiel, James C.**
B.S., Geology, 1993, The University of Texas at Austin
Later Pleistocene Fauna and Environment at Zesche Cave, Mason County, Texas
Supervisor: Ernest L. Lundelius
Committee Members: Robert L. Folk, Timothy B. Rowe

**Zahm, Christopher K.**
B.S., Geology, 1993, University of Wisconsin, Madison
Use of Outcrop Fracture Measurements to Estimate Regional Groundwater Flow, Barton Springs Segment of Edwards Aquifer, Central Texas
Supervisors: John M. Sharp, Randall A. Marrett
Committee Member: Stephen E. Laubach

### Doctor of Philosophy, August 1998 (1)

**Nyffenegger, Paul A.**
B.S., Physics, 1988, Lafayette College
M.S., Geophysics, 1991, SUNY Stony Brook
Aftershock Occurrence Rate Decay for Individual Sequences and Catalogs
Supervisors: Stephen P. Grand, Cliff A. Frohlich
Committee Members: Robert J. Pulliam, Sharon Mosher, Clark R. Wilson

### Master of Science, December 1998 (6)

**Ariza, Eduardo E.**
B.S., Geology, 1988, Universidad Nacional de Colombia
High Resolution Sequence Stratigraphy of the Leonardian Lower Clear Fork Group in the Permian Basin, West Texas
Supervisor: William L. Fisher
Committee Members: Stephen Ruppel, Brenda Kirkland George

**Camerlo, Rion H.**
B.S., Geology, 1994, Fort Lewis College
Geometric and Kinematic Evolution of Detachment Folds, Monterrey Salient, Sierra Madre Oriental, Mexico
Supervisor: Randall A. Marrett
Committee Members: Mark P. Cloos, Daniel D. Schultz-Ela

**Coskun, Gundogan**
B.S., Geology, 1994, Istanbul University
Seismic Stratigraphic Analysis of the Northern Part of the Pattani Basin, Gulf of Thailand
Supervisor: William L. Fisher
Committee Members: William E. Galloway, Noel Tyler

**Devereaux, Johanna A.**
B.S., Mathematics, 1993, University of Miami
Study of Soil Moisture Variability within Remote-Sensing Footprints
Supervisor: James S. Famiglietti
Committee Members: David R. Maidment, John M. Sharp, Jr.

**Kilic, Cem O.**
B.S., Geology, 1993, Istanbul University
Applying Artificial Neural Network Technology in Reservoir Characterization Studies
Supervisor: William L. Fisher
Committee Members: Robert E. Barba, Jr., Noel Tyler

**Muszala, Stefan P.**
B.S., Geology, 1996, Rutgers University
Magnetics of the Puerto Rico Trench and Aeromagnetics of the North Slope of Alaska
Supervisors: Lawrence A. Lawver, Paul L. Stoffa
Committee Member: Ian Dalziel

### Doctor of Philosophy, December 1998 (5)

**Chen, Jianli**
B.S., Geology, 1986, University of Science and Technology of China
M.S., Geology, 1989, Shanghai Observatory
Geodynamical Interconnections between the Atmosphere, Ocean, Hydrosphere, Cryosphere, and Solid Earth
Supervisor: Clark R. Wilson
Committee Members: C. K. Shum, James J. Famiglietti, Gary A. Kocurek, Benjamin F. Chao

### Kim, Eugene M.
B.S., Geology, 1991, Seoul National University
Natural Gas Ultimate Recovery Growth Modeling by Plays in the Gulf Coast Basin
Supervisor: William L. Fisher
Committee Members: John H. Wood, Steven J. Seni, William E. Galloway, Willem C. van Rensburg

### Kong, Fanchen
B.S., Seismology, 1985, Beijing University
M.S., Seismology, 1988, University of Science and Technology
M.S., Geosciences, University of Arizona, Tucson
Continental Margin Deformation Analysis and Reconstruction-Evolution of the East China Sea Basin and Adjacent Plate Interaction
Supervisors: Ian W. Dalziel, Lawrence A. Lawver
Committee Members: Jan Golonka, William E. Galloway, Randall A. Marrett, Tung-Yi Lee

### Sen, Vikramaditya
M.S., Geology, 1991, Indian Institute of Technology
Seismic Survey in Antarctica, Parallel Schemes for Seismic Migration and Target Oriented Velocity Analysis
Supervisors: Paul L. Stoffa, Thomas H. Shipley
Committee Members: Yosio Nakamura, Milo M. Backus, Mrinal K. Sen

### Tanis, Mehmet C.
B.A., Geophysics, 1988, Istanbul University
Prestack Split Step Fourier Depth Migration Algorithms and Parallel Implementation on Cray T3E
Supervisors: Paul L. Stoffa, Mrinal K. Sen
Committee Members: Jacob T. Fokkema, Stephen P. Grand, Milo M. Backus

## Master of Science, May 1999 (4)

### Akyurek, Fatma
B.S., Geology, 1994, Selcuk University
Petrophysical & Geological Characterization of Dolomitized Ramp Reservoirs: Seminole San Andres Unit Well 5309, Gaines County, West Texas
Supervisors: William L. Fisher, F. Jerry Lucia
Committee Member: Brenda Kirkland George

### Aranda Garcia, Mario
B.E., Geology, 1977, Universidad Nacional Autonoma de Mexico
Evolution of Neogene Contractional Growth Structures, South of Mexico
Supervisor: Randall A. Marrett
Committee Members: Amos Salvador, William L. Fisher

### Hudgeons, Gavin L.
B.S., Geology, 1996, University of Montana, Missoula
Petrology and Geochemistry of the Marquez Shale Septarian Concretions, Bastrop County, Texas
Supervisor: Earle F. McBride
Committee Members: Robert L. Folk, Brenda Kirkland George

### Piontek, Jennifer E.
B.S., Geology, 1995, St. Norbert College
Origin of the 1.3 GA Hastefjorden and Ursand Intrusions, SWND Evidence for Crust-Mantle Interaction in the Genesis of A-Type Suite
Supervisor: James N. Connelly
Committee Members: Daniel S. Barker, Leon E. Long

## Master of Arts, May 1999 (1)

### Vur, Cengiz Tolga
B.S., Geology, 1993, Selcuk University
Petroleum Geological Data Management
Supervisor: William L. Fisher
Committee Members: Paul L. Stoffa, William E. Galloway

## Doctor of Philosophy, May 1999 (5)

### Grimes, Stephen W.
B.S., Geology, 1988, University of Massachusetts, Boston
M.S., Geology, 1993, Boston College
The Grenville Orogeny in West Texas: Structure, Kinematics, Metamorphism, and Depositional Environment of the Carrizo Mountain Group
Supervisor: Sharon Mosher
Committee Members: Karl Karlstrom, Stephen E. Laubach, Ian W. D. Dalziel, William D. Carlson

### Kattah, Senira Da Silva
B.S., Geology, 1988, Universidade Federal de Minas Gerais
M.S., Geology, 1991, Universidade Federal de Ouro Preto
Controls on Deposition and Resulting Stratal Architecture of Coarse-Grained Alluvial and Near-Shore Facies Associations
Supervisors: William E. Galloway, Robert J. Finley
Committee Members: William L. Fisher, Gary A. Kocurek, Brian Willis

### Riter, J. C. Alexis

B.S., Geology, 1976, University of Wisconsin, Milwaukee
M.S., Geology, 1982, University of Wisconsin, Milwaukee
Geochemical and Tectonic Evolution of the Colorado Plateau Mantle Lithosphere: Evidence from Grand Canyon Mantle Xenoliths
Supervisor: Douglas Smith
Committee Members: Howard G. Wilshire, Daniel S. Barker, William D. Carlson, Michael F. Roden

### Rougvie, James R.

B.S., Geology, 1990, University of Iowa
Metamorphism in the Northern Park Range of Colorado: Fluid-Rock Interactions and Thermobarometry
Supervisor: William D. Carlson
Committee Members: C. T. Foster, Daniel S. Barker, Douglas Smith, William Lamb

### Weiland, Richard J.

B.S., Geology, 1986, University of Wyoming
M.S., Geological Sciences, 1993, The University of Texas at Austin
Emplacement of the Irian Ophiolite and Unroofing of the Ruffaer Metamorphic Belt of Irian Jaya, Indonesia
Supervisor: Mark P. Cloos
Committee Members: Eldridge Moores, Fred W. McDowell, William D. Carlson, James N. Connelly, W. G. Ernst

# Undergraduate Degrees in Geological Sciences Conferred by The University of Texas at Austin, 1998-1999

## Bachelor of Science, August 1998 (11)

Beede, Adrienne M.
Cole, Danielle J.
Court, James M.
Hamman, Russell R.
(Special Honors in Geological Sciences)
Ho, Warren Szu Yuen
McCarthy, William J.
Moayyad, Behnaum E.
Raabe, Melanie S.
Tarde, Lisa N.
Vaughan, John A.
Wiemann, Warren J.

## Bachelor of Arts, December 1998 (1)

Gary, Roger O.

## Bachelor of Science, December 1998 (3)

Dufeau, David L.
Kennedy, Tammi S.
Neilson, Kristin E.

## Bachelor of Arts, May 1999 (2)

Fuquen, Raquel M.
Lane, Connie M.

## Bachelor of Science, May 1999 (9)

Barnett, Adrienne
(Special Honors in Geological Sciences)
Bilich, Andria L.
(Special Honors in Geological Sciences)
Dacanay, Julienne R.
Dupuy, Frederick G.
Edmonds, Michael C.
Manning, Gilbert P.
Oheim, Katheryn B.
Thayer, Thomas G.
Tisdale, Duane R.

*Field trip to the Sierra Madre Oriental, Mexico, for GEO 381E (Brittle Structure) and 1999 annual AAPG meeting. At entrance to Cañon Huasteca. (Left to right) Rion Camerlo, Javier Moros, Randy Marrett, Ricardo Combellas, Jorge Barrios, and Faustino Monroy. Photo provided by Randy Marrett.*

# Bureau of Economic Geology

*by Tucker F. Hentz*

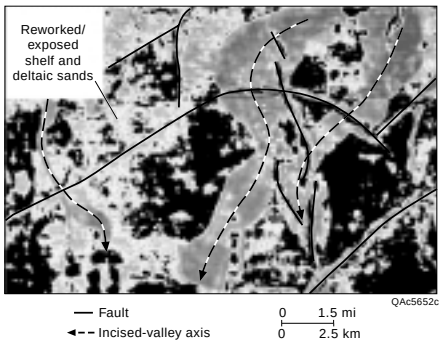
In 1998-1999, the Bureau conducted 89 geoscientific and environmental research projects, both abroad and within the United States. A discussion of selected projects follows.

The hallmark of Bureau energy resource investigations that are supported by industrial consortia is innovation in the development of new exploration and development strategies for the oil and gas producer. Advances in numerical modeling, physical modeling, and computer visualization by the Applied Geodynamics Laboratory enabled continued study of a variety of controls on salt tectonics that have direct application to subsalt exploration in hydrocarbon-bearing salt basins of the world. The Exploration Geophysics Laboratory focused its research effort on the development of seismic vector-wavefield technology that can improve the characterization of complex reservoirs.

Bureau investigations of domestic hydrocarbon reservoirs continued to stress advanced geological, geophysical, and engineering research approaches to optimize recovery strategies. In a multiyear study of deep-water turbidite sandstone reservoirs, Bureau researchers detailed the reservoir architecture of two representative fields of the Delaware Mountain Group of West Texas to define cost-effective ways to recover a higher percentage of the original oil in place. In an outcrop-based study of the Cretaceous Ferron Sandstone of central Utah, Bureau scientists used ground-penetrating radar to interpolate the 3-D geometry and facies of sediment bodies behind outcrops of the Ferron, which is representative of a prolific class of heterolithic deltaic reservoirs in the United States. A major multiyear multidisciplinary reservoir characterization study is examining, with the aid of an industry partner, two major gas fields in the Federal Outer Continental Shelf of the Gulf of Mexico to identify opportunities for infill drilling and recompletion of existing wells in these mature gas fields.

The Bureau's international program involved nine reservoir-characterization and basin-analysis projects in Austria, Honduras, Saudi Arabia, and Venezuela in 1998-1999. The Bureau worked on behalf of OMV Aktiengesellschaft of Austria to help define the remaining unrecovered oil and gas resource in Matzen field, Vienna Basin, the largest oil and gas field in Central Europe. Six Bureau investigations in Venezuela used integrated reservoir-characterization techniques to identify and map remaining oil and develop reservoir-management strategies for more efficient recovery from several fields. Bureau researchers examined Eocene and Miocene reservoirs in the Mioceno Norte Area, northeast Lake Maracaibo, and Eocene reservoirs in the Maraven-VLA 6/9/21 Area, north-central Lake Maracaibo. Production optimization projects also examined lower Eocene reservoirs in the Pilar Sur Area in north-central Lake Maracaibo; Cretaceous and Paleocene—Eocene reservoirs in Mara Este (Mara Liviano) field, northwestern Maracaibo Basin; Tertiary and Cretaceous reservoirs of South Lake Maracaibo; and Oligocene and Miocene strata of the Sanvi-Guere Unit in eastern Venezuela.

The Bureau's hydrogeologic and environmental efforts addressed international geoenvironmental characterization and domestic study of toxic near-surface contaminants and subsurface waste containment. The Orinoco delta project described the active geologic processes, geologic framework, and land cover of the fragile and nearly pristine environment of the Orinoco delta in eastern Venezuela, all part of an effort by Venezuela to encourage responsible development of this environmentally sensitive region. Closer to home, Bureau investigators continued to assist the Railroad Commission of Texas in devising cleanup solutions at nine sites in Texas.




*Chronostratigraphic seismic slice representing about 20 feet of stratal thickness of a key sand reservoir deposited during a time of major incised-valley development. This reservoir is one of many in two mature gas fields in the Federal Outer Continental Shelf in offshore Louisiana that the Bureau is examining to identify additional reserves. Image provided by Hongliu Zeng.*

Fourteen projects composed the Bureau's coastal investigations program in 1998-1999, which stressed historical trends in coastal shoreline change, wetland creation and preservation, and coastal processes and their influence on coastal management. To study the physical processes of shoreline movement, Bureau researchers mapped the shoreline of San José Island, one of the few barrier islands on the Texas coast that has not been significantly altered by human activities, using Global Positioning System (GPS) techniques to evaluate shoreline movement since 1974. Bureau coastal specialists also analyzed the geological setting and physical processes that control beach erosion near Magnolia Beach to recommend erosion-mitigation options. Bureau researchers also used NASA's airborne synthetic aperture radar (AIRSAR) to map coastal topography, sedimentary environments, and wetland vegetation. Because the shapes, elevations, and distributions of sediment and vegetation of barrier islands can change dramatically over a short period of time, such as during a storm, the precise mapping possible with the use of AIRSAR is essential for effective coastal management.

# Institute for Geophysics

*by Katherine Ellins*

**WHO WE ARE:** The University of Texas at Austin Institute for Geophysics (UTIG) is known internationally as a leading academic research group in geology and geophysics. Founded in 1972 by geophysicist and oceanographer Maurice Ewing, UTIG is an Organized Research Unit within The University of Texas System under the auspices of the College of Natural Sciences. UTIG hosts 21 research scientists, 2 research fellows, 2 post-doctoral fellows, 1 research engineer, and 2 emeritus professors. The support staff includes laboratory staff, technicians, and administrative personnel. The number of graduate students involved in UTIG research as partial fulfillment of Master's and Doctoral degree requirements is about 20, which is a significant percentage of the total complement of students acquiring advanced earth sciences degrees in the Department of Geological Sciences. The Director of UTIG is Paul Stoffa, who also holds the Shell Distinguished Chair in the Department of Geological Sciences.

**MISSION:** The Institute's primary mission is to carry out research that pushes the frontiers of knowledge in earth science, has societal and economic relevance, and is of human interest. This effort, which emphasizes the ocean basins and continental margins, earthquake phenomena, and Antarctica, enhances the fundamental understanding of the structure of the solid earth and the dynamic processes that influence its changing nature and history. It is also relevant to the geological exploration for natural resources, problems of earthquake prediction, geologic hazard assessment, and environmental problems. The development of new mathematical methodologies, geophysical processing techniques, and instrumentation is an integral part of the Institute's programs. UTIG research activities are carried out all over the world and include large-scale, multi-investigator, and multi-institutional field programs. Global programs require a global perspective. To that end, UTIG has had a long-standing commitment to international scientific collaboration. The importance of geophysical measurements and their mathematical interpretation in the exploration for petroleum and economically useful minerals have also led to valuable partnerships between UTIG and industry.

**PROVIDING THE MEANS:** UTIG utilizes state-of-the-art equipment and technologies. UTIG operates the Hockley Seismic Station (HKT). The Hockley station is also a cooperating member of the United States National Seismic Network (USNSN), maintained by the USGS and the Global Seismic Network (GSN), operated by IRIS. UTIG research scientists go to sea on ships that are part of the UNOLS fleet, on Coast Guard and Navy vessels, and on the ODP drillship, the *JOIDES Resolution*. International collaboration with Germany, France, Great Britain, Australia, Japan, and Norway also provides chances to sail as part of the scientific expeditions mounted by scientists in these nations.

UTIG hosts the Support Office for Aerogeophysical Research (SOAR), a research facility created by the NSF Office of Polar Programs (OPP) in 1994 for the purpose of supporting NSF/OPP-sponsored aerogeophysical work in Antarctica. SOAR maintains a two-ski modified DeHavilland Twin Otter aircraft fitted with a suite of airborne geophysical instruments to provide high-quality, integrated observations of gravity, magnetics, surface elevation, and ice thickness.

**COMPUTING AND DATA PROCESSING FACILITIES:** UTIG's computing facilities encompass a broad range of hardware and software components that are seamlessly networked to allow sharing of resources in a heterogeneous environment. UNIX workstations are available for researchers to carry out demanding numerical and graphically intensive tasks. UTIG also employs several multi-processor computer servers for the most computationally demanding seismic processing and interpretation tasks. These include the SGI-*Origin* 2000 parallel computer system, the centerpiece of UTIG's computational capabilities, and a Cray 16-processor system. Recently, NT workstations, clustered in a Beowulf-like configuration, have been shown to rival the performance of supercomputers at a fraction of the cost, and UTIG has endeavored to apply this innovative approach to solving complex numerical problems. Researchers at UTIG take advantage of numerous graphical input and output devices for the visual presentation of research results: high-resolution color scanners, slide makers, printers, and large-format plotters capable of outputting to various media types. Primary data storage consists of approximately 400 GB of data configured in several RAID systems attached to UNIX servers and made available through the network to UNIX and NT desktop systems alike. The Institute maintains a presence on the Internet with a WWW site that highlights current high-profile research projects and provides biographical and research information on its personnel.

**SELECTED UTIG RESEARCH HIGHLIGHTS:** UTIG researchers, led by Tom Shipley and Nathan Bangs, are university pioneers in the use of three-dimensional (3-D) seismics to image subduction zone processes. Three-D seismics, a combination of tomography and satellite navigation, provide a detailed portrait of the earth's interior and allow investigators to generate maps of specific surfaces within the subduction zone that may be of special interest. This summer (June-August 1999), Shipley and Bangs will lead a major, joint U.S.-Japanese endeavor to characterize of a portion of the Nankai Trough subduction zone, located southwest of Japan, to determine how these changes in the physical properties relate to earthquake activity. The data acquired will determine at which depths sediments have sufficient strength to store large amounts of stress energy that could be released in a tsunamagenic earthquake.

Clues from Fred Taylor's research promise to resolve the debate surrounding the correct values of past sea surface temperatures for the tropics. Taylor, working with American, French, and Australian colleagues, has applied two new chemical sea surface thermometers that utilize the ratios of the strontium to calcium (Sr/Ca) and uranium to calcium (U/Ca) in corals to the study of fossil reefs in the western Pacific. Taylor is concentrating his efforts on 30,000-year-old fossil reefs that grew within the largest reservoir of warm ocean water on earth, the Western Pacific Warm Pool (WPWP). Taylor's work will yield a better understanding of climate during glacial and interglacial periods and provide information about the influence of oceanic warm pools on the tropical ocean-atmosphere system that is critical for the development of robust climate forecasting systems.

UTIG researchers Richard Buffler, Yosio Nakamura, and Gail Christeson collected seismic reflection, refraction, gravity, and magnetic data over the offshore part of the Chicxulub impact crater to produce the first high-resolution image of a well-preserved large crater. Based on the survey, the scientific team concluded that the Chicxulub crater is about 195 km in diameter, and that about 50,000 $km^3$ of material was ejected into the atmosphere by the impact, leaving a 12-km-deep cavity at the earth's surface.

Mike Coffin sailed in December 1998 from Fremantle, Australia, on board the Ocean Drilling Program's (ODP) drillship, the *JOIDES Resolution*, as Co-Chief Scientist of ODP Leg 183 to the Kerguelen plateau. A suite of holes was drilled into the plateau to determine how the Kerguelen large igneous province (LIP) was formed. The scientists learned that the Kerguelen LIP formed between 115 and 90 million years ago through a series of violent volcanic eruptions associated with a magma hot spot. The plateau existed as a continental mass until about 20 million years ago when it slipped below the ocean surface after drifting away from the hot spot.

Richard Buffler, William Galloway, and Patricia Ganey-Curry completed the first phase of a detailed, comprehensive synthesis of the Gulf basin that merges the basin-floor succession, understood largely through seismic data, with the coastal plain, shelf, and upper slope succession, defined largely by well data, for the last hundred million years. The project customized ARC/INFO GIS software for regional mapping and analysis to produce a UTIG Gulf of Mexico database that is on the leading edge of geographic information systems in geology. Support for the project, provided by a consortium of 17 petroleum companies, has been extended for 2 years (Phase II).

**SELECTED UTIG ACCOMPLISHMENTS IN FY 98:** The Board of Directors of the Offshore Energy Center inducted The University of Texas at Austin Institute for Geophysics into the inaugural class of the Center's Hall of Fame as a Technology Pioneer in the field of Search for Oil and Gas: Marine Exploration. NOAA selected Arthur E. Maxwell, UT Professor Emeritus and former Director of UTIG, to serve on a newly-formed 15-member Science Advisory Board. The University of Texas Cooperative Society presented Ian Dalziel the Best Research Paper Award for 1997. NASA named Don Blankenship Chair of the Instrument Definition Team for the Europa Radar Sounder. Europa, one of Jupiter's largest moons, is of special interest to scientists because it is thought to have an ocean under its icy surface layer that may host exotic life. The Europa Radar Sounder will be deployed in 2003 on the Europa Orbiter Mission. Jamie Austin served as JOI-USSAC Distinguished Lecturer during FY 1998. JOI/USSAC has chosen Hilary Olson to serve as a Distinguished Lecturer for 1998–1999. Our Dynamic Earth, an UK Millennium Project that will open in Edinburgh, Scotland, in May 1999, will host an interactive display utilizing UTIG's PLATES software. PLATES, which is supported by a consortium of oil companies, is used to model past and present plate movement. Patricia Ganey-Curry and Cliff Frohlich helped the Galindo Elementary School's fifth-grade class to prepare an exhibit for Austin Science Fun Day in March 1998 for which the class won first prize. Laurie Schuur was one of 32 students selected nationwide to attend NSF's symposium on "Fifty Years of Ocean Discovery."

# Vertebrate Paleontology Laboratory—Thanksgiving in the Cretaceous

*by Timothy Rowe*

It is no secret that Texas has a terrific fossil record, and for more than a century, paleontologists from around the world have launched collecting expeditions into Texas to bring home exquisite and important fossils to their museums. Among the best known of the early explorers was Barnum Brown, the great dinosaur collector for the American Museum of Natural History in New York. Brown and a small field party drove into Texas in the1930's to hunt for dinosaurs and other extinct behemoths. And in what are now-classic badlands of the Big Bend region, Barnum Brown lived up to his reputation. His crew collected many bones from the skeleton of a spectacular 40-foot alligator known as *Dinosuchus*, a long-dead cousin of today's comparatively diminutive alligator. Brown also took back to New York specimens of dinosaurs that were new to science and that are still on display in the American Museum galleries.

Following in Brown's footsteps were two young students who had set out to become paleontologists. One was from Texas, the other from Oklahoma, and they met while at school in Norman. There they learned about the excitement of paleontological field expeditions, and they determined that they would find their own share of adventure in the field of paleontology. They also learned about the great dinosaur graveyards in West Texas, which at that time were still relatively unexplored. So in 1938, they too headed to the Big Bend, where they aimed to find some dinosaurs for themselves.

One of these students was Wann Langston, Jr., now Professor Emeritus of paleontology and a former Director of UT's Vertebrate Paleontology Laboratory. Today, Professor Langston is world-renowned for his many important discoveries and distinguished research on extinct reptiles. It was his first paleontological field trip, and it set a decisive course that has so far carried him through more than 50 years of fossil collecting in the Big Bend region. Langston's companion on the Big Bend trip was the late Donald Savage, who was also incurably bitten by the fossil bug and who also went on to become a Professor Emeritus, at the University of California at Berkeley. Savage was one of my professors when I was a grad student at Berkeley, and he introduced me to Texas paleontology with stories of collecting fossils in Big Bend.

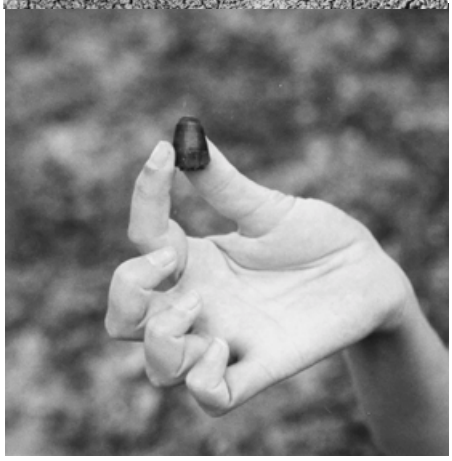
Before the summer of 1938 was out, Langston had discovered his first dinosaur skeleton. It was a nearly complete skeleton of *Chasmosaurus*, a relative of the better-known three-horned *Triceratops*. The specimen is now preserved in the Oklahoma Museum of Natural History. Dr. Langston collected hundreds more important specimens during his long and prolific career. The last three of Dr. Langston's five decades of dinosaur hunting were spent at UT's Vertebrate Paleontology Laboratory (VPL), where he has amassed a far greater collection of Big Bend reptiles than Brown or anyone else. He also helped to train a generation of aspiring paleontologists, including some of today's most active professionals, by introducing them to Big Bend's fossils.

This is some of the Texas history that I shared with my undergraduate vertebrate paleontology students last fall, as they handled and studied some of the specimens housed at VPL that were collected from the Big Bend region by Dr. Langston and his students. Both the bones and the stories of earlier fossil collectors whetted our taste for an adventure of our own. So, last Thanksgiving we saddled up our four-wheel-drive Suburban and headed out to Big Bend to hunt for fossilized evidence of the marvelous Mesozoic history of our state. Most of the students simply wanted a taste of field paleontology, but a few were seriously contemplating careers in paleontology for themselves as they eyed the accomplishments of the great paleontologists who had explored Big Bend before them.

On this trip, our objectives were twofold. We wanted to try our hands at finding some fossil bones. In particular, we were looking for relatively complete bones of early birds and bird-like dinosaurs. Some tantalizing fragments in the VPL collection suggest that they were out there in the Cretaceous, but we need more complete skeletons to be sure. And we all wanted to celebrate Thanksgiving in the beautiful Chihuahuan Desert. We camped on exposures of the Aguja Formation, just outside Big Bend National Park, at the edge of a spectacular stand of Ocotillo, sage, and cactus. Late summer rains had left the desert lush and green, and some late cacti and wildflowers were in bloom. The weather was perfect.

Working under permits from the Park Service, we checked out a fossil site reported to us by Margaret and Jim Stevens (Ph.D., 1969), who now both

*Undergraduates from Tim Rowe's Veterbrate Paleontology class surface collecting small fossil bones at the Terlingua Micro 1 site. The site, which is in the Upper Cretaceous Aguja Formation, has so far yielded the remains of about 60 extinct species and resulted in 2 UT Master's theses. Photo provided by Tim Rowe.*



*(Top) Geology undergraduate David Dufeau prospecting for fossil bones in the Upper Cretaceous Aguja Formation near Big Bend National Park. Photo provided by Tim Rowe.*

*(Bottom) The tooth of a Cretaceous crocodylian. Photo provided by Tim Rowe.*

teach at Lamar University in Beaumont, Texas. At this site, we found a number of scattered bones of dinosaurs, crocodylians, and turtles, but no sign of the tiny dinosaurs we were after. We then excavated at the Terlingua Micro 1 site, which has so far been the subject of theses by two UT graduate students in paleontology-Anne Weil (M.A., 1992) and Mary Stewart Miller (M.A., 1997). There we collected tiny bones of fishes, more turtles, and several kinds of dinosaurs. But we found no more than a few isolated teeth and bone fragments of what we had come after. We also found several new sites near our camp that yielded bones of large dinosaurs and various other Cretaceous vertebrate and invertebrate fossils. The students had a chance to excavate and jacket a duck-billed dinosaur leg bone with plaster bandages. They also learned some of the techniques for collecting the bones of very tiny fossils. All told, we found evidence of about 20 extinct vertebrate species at the various sites in which we visited the Aguja Formation.

The best discovery was made on Thanksgiving Day, when we found a hill slope covered with fragments of broken bones. There were both large limb bones and the tiny bones and teeth of several different small reptiles. We also found more fragments of the small hollow-boned dinosaurs that we had come for. Some of the students worked the site all afternoon, while others returned to camp a little early to start a fire and begin preparation of our Thanksgiving dinner. By sunset, everyone was back at camp and had pitched in on the dinner. Instead of turkey, we feasted on Cornish game hens—which are a lot easier to prepare over a camp fire—along with a dozen different side dishes, and two pies for dessert. After a good discovery and a great meal, the cool night, a bright starlight, and a campfire conjured up stories and images of expeditions made to Big Bend before any of us were born.

We returned from Big Bend with a good taste of its exciting fossils, its rich paleontological history, and the desert at its most hospitable. We also left with many questions unanswered and the urge to return. Despite all the discoveries made by Langston, Brown, and the earlier Big Bend explorers, it was evident in the sites we examined that even these great paleontologists had not discovered all of the species that Big Bend has to offer. Perhaps we'll find a new species on our next expedition. And that was exciting news to the students who were wondering whether there might be a place for them a few years down the road in the profession of paleontology.

# Walter Geology Library

*by Dennis Trombatore*

The Walter Library is a recognized source for earth sciences information. With recent generous gifts from Mrs. Elizabeth C. Walter and Dr. Tom Barrow, library endowments prosper. In this way, the Walter Library remains the strongest unit of the Science Library Division of the General Libraries and maintains its relative standing among peer institutions. State funding, however, must soon be significantly increased to underwrite the strength of the core collections and our library system as a whole.

What role will the Walter Geology Library play in the future of information provision and archiving? Given budget constraints and changes in publishing, how can the Walter Library add value to its collections and properly serve the earth science community?

Changes in the economics of publishing and the rapid development of statewide higher education cooperatives have fundamentally altered the way libraries provide services. Statewide cost-sharing of electronic access to databases and journals means a somewhat smaller total universe of "publications" in favor of desktop access for a much larger group of users statewide. Because of our flagship status, UT Austin campus libraries are the expected source for "lesser-used" or "scholarly" materials, and maintaining that strength will continue to cost more. While the good news is that desktop access will make more information available to everyone in the various Texas consortia, the depth of the largest collections must also be properly supported.

A large portion of any library's work is preservation and archiving. Our collections are too valuable to sit slowly degrading on the shelves; information has to be mobile to be fully exploited. The Walter Library's strong historical collections are important materials that are in many cases in very poor physical condition and now must be transferred to a safer, more accessible medium. Thus, the Walter Library is continuing its demonstration digitization project of the "Dumble Survey" volumes from the 1890's. By fall 1999, Abbott and Woodruff's *The Balcones Escarpment* will also be available on our Web site, thanks to the generosity of the authors in providing copyright. The Walter Library will continue, as time permits, to develop these materials, building a critical mass of historical literature on Texas geology accessible on the Web to anyone.

A research library also adds value to its collections by improving access—making it easier for users to focus their queries and dig into the literature. There are thousands of documents in the Walter Library for which access is poor and for which users must consult a reference librarian. With more users searching the catalog electronically at all hours from desktop computers, however, many researchers will be thwarted unless we can significantly improve the quality and quantity of our catalog records. To this end, we will soon complete the cataloging of the Tobin Map Collection. We are also reviewing thousands of items with minimal cataloging to upgrade the records, and we are updating and relocating Dewey Decimal materials, storing some in the warehouse and moving others into the main part of the collection. This past year, we have processed more than 90 shelves in this manner, giving the library more space. In all, almost 20 percent of the collection's records need to be updated—a slow and labor-intensive project.

Meanwhile, the library continues to grow, and our space problem is only being handled by the constant transfer of materials to the warehouse. Work space for staff and researchers grows more inadequate as more computers are added to the library. The entire facility needs to be renovated and expanded if the library is to continue to be vital.

The Walter Library remains strong with the assistance of friends like Mrs. Walter and Dr. Barrow, the strong support of library administration, faculty, and students, and the great contributions of our staff. Congratulations to Alice Dewberry for 20 years of service and to Carol Russell for 35 years of service. Special thanks this year to Rosemary Barker for another year of volunteer service, to Dan Mulvihill for his work on *The Balcones Escarpment* scanning project, and to Jo Soto, winner of this year's Guion Award for her efforts to improve our collection access through UTCAT.

# Geology Foundation Advisory Council News

The Geology Foundation was established by the Board of Regents on October 24, 1953, to enhance and enrich geologic education and training at The University of Texas at Austin. Through the years, the Foundation has been able not only to accomplish but also to far surpass its original goals. Assets as of June 30, 1999, had a market value of $47.5 million and were held in 115 endowed accounts.

Governance of the Foundation is provided by the Faculty Review Committee, chaired by the Director of the Foundation, William L. Fisher. He is assisted by Mary Koch, Senior Administrative Associate, and Debra Sue Trinque, Accounting Technician, who works part time for the Foundation. Mark P. Cloos, Department Chairman, serves as Associate Director of the Foundation.

The Geology Foundation Advisory Council supports and counsels the Foundation and the Department. The Chairman of the Geology Foundation Advisory Council serves a 1-year term and may be reelected for a second 1-year term. We have been fortunate to have Thomas E. Fanning at the helm since September 1, 1997, with Dr. Richard R. Bloomer as Vice Chairman. At the spring 1999 meeting, Tom received a plaque commemorating his outstanding service to the Foundation. Dr. Bloomer was elected Chairman and L. Decker Dawson as Vice Chairman effective September 1, 1999. The Council currently consists of 41 members and 7 Honorary Life Members. This diverse group consists of distinguished individuals from industry, government, and academia.

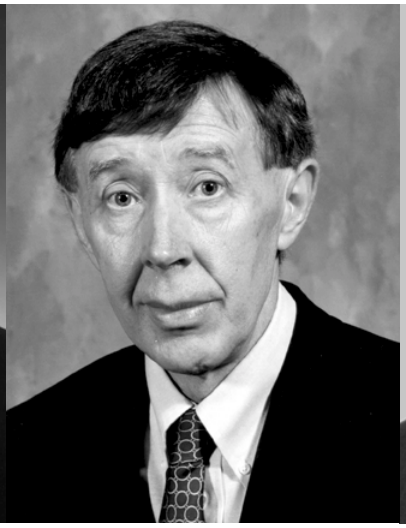
We were saddened to learn of the death of two of our Honorary Life Members during the year. J. Donald Langston died on September 26, 1998. He received a B.S. in Geology in 1949 from The University of Texas at Austin. Don created the J. Donald Langston Special Operations Fund,

*(Above) Dean Mary Ann Rankin (left), L. Decker Dawson (center), and Mrs. Lou Dawson (right) at the fall 1998 GFAC reception.*

*Dr. Larry Faulkner, President of The University of Texas at Austin (left), Dr. Peter T. Flawn, President Emeritus and Honorary Life Member of the Geology Foundation Advisory Council (center), and Thomas E. Fanning, Chairman of the GFAC (right),visit at the fall 1998 GFAC reception.*

*Dodd W. DeCamp*

*Gerald M. Gilbert*

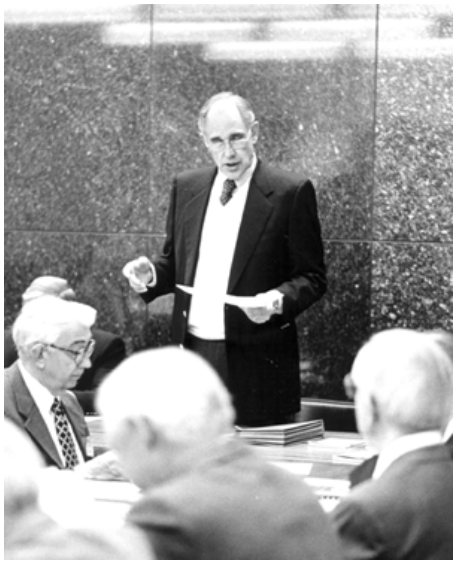


*Charles G. Groat*

*Mark S. Leonard*

and he and Ginny established the J. D. and V. L. Langston Endowed Scholarship Fund in Geology and Geophysics in the Geology Foundation. Samuel P. Ellison, Jr. died on June 4, 1999. He was a long-time member of the faculty in the Department and was instrumental in the creation of the Geology Foundation. A fund named the Samuel P. Ellison, Jr. Fund was established long ago in the Foundation in his honor. We will miss both these great members and express our sympathies to their families.

At the fall 1998 Advisory Council reception, held on November 5, 1998, Dr. John A. Jackson and J. Donald Langston (posthumously) were honored for their election to Honorary Life Membership. We thank both these members for their dedicated and continued support of the Geology Foundation.



*Dr. William H. Cunningham, Chancellor of the UT System (standing), addresses members of the GFAC at the fall 1998 meeting.*

*Tom Barrow (left), Bill Stokes (center), and Thomas M. Burke (right) visit during break at fall 1998 GFAC meeting.*

At the spring 1999 meeting of the Geology Foundation Advisory Council, held on April 9, 1999, four new members were recommended. With administrative approval, they join the Council for a 3-year term beginning September 1, 1999. They are: Dodd W. DeCamp, Vice President for Exploration, ARCO, in Plano, Texas; Gerald M. Gilbert, President, Baker Hughes E&P Solutions, and Executive Vice President for E&P Services, Western Atlas, in Houston, Texas; Charles G.


*Don Boyd (left) and Bill Gipson (right) during discussion at break at fall 1998 GFAC meeting.*

at Austin. Mark Leonard has been with Shell since September 1979. He received a B.S. in Astrophysics and an M.A. in Geology from Indiana University. In addition, Thomas M. Burke, Richard M. Coffelt, James A. Gibbs, Jack H. Mayfield, Jr., James C. Patterson, and William T. Stokes were reappointed for three-year terms. Members leaving the Council effective September 1, 1999, are Larry R. Hensarling and James H. Frasher. J. M. Funk and Eddie A. Williamson have left their companies and submitted letters of resignation to the Foundation.

Three new endowments were created during the year. An anonymous donor has established the Graduate Fellowship in Exploration Geophysics. This fund will be used to support one

Groat, Director, U.S. Geological Survey in Reston, Virginia; and Mark S. Leonard, President, Shell EP International Ventures, Inc., in Houston. Dodd DeCamp, formerly with Shell, received his Bachelor's and Master's degrees in Geology from The University of Texas at Austin. Jerry Gilbert, formerly with Halliburton Geophysical Services, Inc., received a B.S. in Electrical Engineering from The University of Texas at Austin and an M.S. from Southern Methodist University. Chip Groat, formerly Director of the Louisiana Geological Survey, and more recently Associate Vice President of Research at UT El Paso, received a B.A. in Geology from the University of Rochester, an M.S. in Geology from the University of Massachusetts, and a Ph.D. in Geology from The University of Texas

*Tim Denison (left) and Keith Young (right) taking a break during fall 1998 GFAC meeting.*

graduate student in exploration geophysics. Mr. and Mrs. John A. Jackson of Dallas, Texas, have created the John A. and Katherine G. Jackson Exploration Geophysics Fund in support of students in exploration geophysics. They had previously established the John A. and Katherine G. Jackson Centennial Teaching Fellowship and the John A. and Katherine G. Jackson Fellowship in Geohydrology and have made substantial contributions throughout the years in support of these two funds. Mr. L. Decker Dawson has created the L. Decker Dawson Fund in Exploration Geophysics in support of the Center for Exploration Geophysics within the Department. Mr. Dawson is President of the Dawson Geophysical Company.

*Dick Bloomer, incoming GAFC Chairman, (left) presents plaque to retiring GFAC chairman, Tom Fanning (right) spring 1999 GFAC meeting.*

Substantial contributions were made by: Mrs. Elizabeth C. Walter in support of the Joseph C. Walter, Jr. and Elizabeth C. Walter Geology Library; James C. Patterson in support of the James C. Patterson Fund for Excellence in the Geophysical Sciences; Thomas D. Barrow in support of the Barrow Periodical Fund; Ray Burke in support of the Thomas and Ray Burke Student Job Program; and Jack Mayfield in support of geophysics. Ben Carsey, Jr. provided a substantial contribution, as a bequest in his will, to the Dorothy Ogden Carsey Memorial Scholarship Fund and the J. Ben Carsey, Sr. Special Maintenance Fund. We received annual support in the form of scholarships as a portion of the net income from the trust created by Mrs. Dorothy Banks in memory of her husband, Mr. Thomas R. Banks. This trust is administered by the San Antonio Area Foundation.

*Pam Luttrell (left), Robbie Gries (center), and Susan Longacre (right) visit at spring 1999 GFAC reception at the home of Mark and Rhonda Cloos. Photo provided by Susan Longacre.*

Companies providing non-endowed scholarships and enrichment funds included Amoco, ARCO, BP America, BP Exploration, Burlington Resources, Chevron, DuPont, Exxon, Marathon, Mobil, Phillips, Shell, Texaco, Unocal, and Vastar. Total contributed by companies for the academic year was $204,000.

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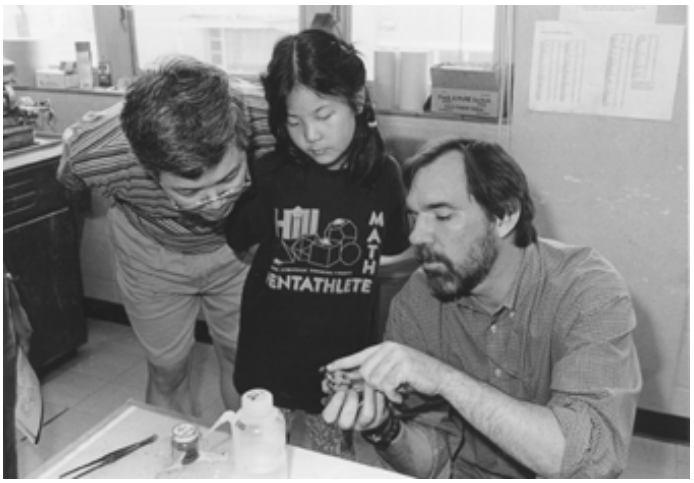


*Mark Helper (right) describes the faceting process to Department guests during UT Interactive, a campus-wide open house held for the first time this spring on March 6, 1999.*

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*Graduate student Pamela Owen (left) watches two very young paleontologists examine fossils during the UT Interactive open house on March 6, 1999.*

# Geology Foundation Endowed Accounts

## Values as of May 31, 1999

| | Book Value | Market Value |
|---|---|---|
| **Edwin Allday Centennial Chair in Subsurface Geology**<br>Income supplements salary and supports research of recipient | **$704,493** | **$1,472,757** |
| **Edwin Allday Lectureship in Geological Sciences**<br>To provide for guest lectures in geological sciences | **$164,114** | **$282,513** |
| **Mary and Ben Anderson Endowment for Graduate Studies in Geology**<br>To support graduate students and graduate programs in geology | **$41,861** | **$67,460** |
| **Millard B. Arick Memorial Fund in Petroleum Geology**<br>Support of students to further interest in finding and producing more oil in Texas | **$11,857** | **$13,564** |
| **Virgil E. and Mildred L. Barnes Distinguished Lecture Series in Geology**<br>To provide for guest lectures in geological sciences | **$30,303** | **$34,655** |
| **Col. E. Barron Trust Account**<br>For support of the Barron Mineral Collection | **$127,375** | **$272,143** |
| **Leonidas T. Barrow Centennial Chair in Mineral Resources**<br>Development of programs of excellence in mineral resources, income supplements salary and supports research of recipient | **$1,090,272** | **$2,402,932** |
| **Laura Thomson Barrow Graduate Fellowship**<br>To support graduate students specializing in natural resources, special consideration for female students and students concentrating on field-oriented studies | **$242,205** | **$434,823** |
| **Barrow Periodical Fund**<br>For purchase of periodicals for the Walter Geology Library | **$187,072** | **$256,948** |
| **Bloomer Fund for Motivated Students**<br>Financial aid for students not qualified for scholarships | **$123,414** | **$230,631** |
| **Leslie Bowling Professorship**<br>To attract persons from industry and government for short-term appointments of the faculty | **$160,140** | **$303,605** |
| **Wayne Franklin Bowman Endowed Presidential Scholarship**<br>Unrestricted geology scholarships | **$114,720** | **$260,555** |
| **Don R. and Patricia Kidd Boyd Lectureship in Petroleum Exploration**<br>To provide for guest lectures in petroleum exploration | **$54,524** | **$111,199** |
| **Brahman Energy Company Scholarship**<br>Senior field course scholarship | **$19,481** | **$45,595** |
| **Charl A. M. Broquet Memorial Endowed Scholarship Fund**<br>Graduate student scholarship | **$11,219** | **$11,546** |
| **Jesse L. Brundrett Endowed Presidential Scholarship**<br>Graduate student scholarship | **$48,562** | **$85,048** |
| **Fred M. Bullard Professorship in Geological Sciences**<br>Excellence in teaching, income supplements salary and supports research of recipient | **$12,842** | **$233,777** |
| **Thomas and Ray Burke Student Job Program**<br>Jobs for students in geologic work related to faculty research | **$99,033** | **$128,202** |
| **Hal H. Bybee Memorial Fund**<br>Student field support or support of students researching geologic issues related to public policy | **$105,243** | **$167,875** |
| **Hal P. Bybee Memorial Fund**<br>Faculty use for research, travel, study, etc. | **$584,512** | **$1,271,429** |
| **L. W. Callender Memorial Fund**<br>Department use, unrestricted | **$58,174** | **$137,940** |
| **Dave P. Carlton Centennial Professorship in Geology**<br>Income supplements salary and supports research of recipient | **$637,063** | **$1,435,640** |
| **Dave P. Carlton Centennial Professorship in Geophysics**<br>Income supplements salary and supports research of recipient | **$557,481** | **$1,252,544** |
| **Dorothy Ogden Carsey Memorial Scholarship Fund**<br>Geology scholarships, any level, special consideration to micropaleontology students | **$217,256** | **$347,767** |
| **J. Ben Carsey, Sr. Special Maintenance Fund**<br>To maintain teaching and research equipment | **$195,670** | **$284,882** |
| **Chevron Centennial Professorship in Geology**<br>Income supplements salary and supports research of recipient | **$274,659** | **$577,985** |

| | Book Value | Market Value |
|---|---|---|
| **S. E. Clabaugh Fund in Hard-Rock Geology**<br>To support research in hard-rock geology | **$37,779** | **$78,807** |
| **W. Kenley Clark Memorial Endowed Presidential Scholarship**<br>Geology scholarships, any level | **$50,080** | **$109,192** |
| **Joseph S. Cullinan Scholarship in Geological Sciences**<br>Scholarship in petroleum or field geology | **$44,284** | **$106,751** |
| **Robert H. Cuyler Endowed Presidential Scholarship**<br>Undergraduate (upper-division) and graduate scholarships | **$63,176** | **$141,218** |
| **Morgan J. Davis Centennial Chair in Petroleum Geology**<br>Income supplements salary and supports research of recipient | **$897,296** | **$1,875,623** |
| **L. Decker Dawson Fund in Exploration Geophysics**<br>Support activities in Exploration Geophysics | **$274,963** | **$284,699** |
| **Ronald K. DeFord Field Scholarship Fund**<br>Field studies for graduate students | **$213,600** | **$450,002** |
| **Alexander Deussen Professorship in Energy Resources**<br>Development of program of excellence in energy resources, income supplements salary and supports research of recipient | **$226,156** | **$422,404** |
| **Michael Bruce Duchin Centennial Memorial Endowed Presidential Scholarship**<br>Scholarship for Master's candidate with preference toward general geology | **$47,507** | **$97,107** |
| **Elf Aquitaine Petroleum Faculty Fellowship in Geological Sciences**<br>Income supplements salary and supports research of junior faculty member | **$194,710** | **$349,952** |
| **John E. "Brick" Elliott Centennial Endowed Professorship in Geological Sciences**<br>Income supplements salary and supports research of recipient | **$337,602** | **$777,980** |
| **Samuel P. Ellison, Jr. Fund**<br>For Department Newsletter and support of faculty-alumni functions | **$86,828** | **$190,247** |
| **Energy and Mineral Resources Fund**<br>Support of programs and students in energy and mineral resources | **$32,000** | **$74,166** |
| **William Stamps Farish Chair in Geology**<br>Income supplements salary and supports research of recipient | **$417,722** | **$956,911** |
| **Peter T. Flawn Centennial Chair in Geology**<br>Income supplements salary and supports research of recipient | **$796,996** | **$1,672,664** |
| **Robert L. Folk Excellence Fund in Geological Sciences**<br>To support excellence in geological sciences | **$64,884** | **$74,694** |
| **Geology Foundation Advisory Council Centennial Teaching Fellowship in Geological Sciences**<br>Income supplements salary and supports research of junior faculty member | **$105,893** | **$200,596** |
| **Geology Foundation Various Donors Fund**<br>Unrestricted funds for any purpose of the Foundation | **$35,153** | **$103,463** |
| **Getty Oil Company Centennial Chair in Geological Sciences**<br>Income supplements salary and supports research of recipient | **$941,936** | **$2,079,026** |
| **Graduate Fellowship in Exploration Geophysics**<br>Provides one graduate fellowship in exploration geophysics | **$500,000** | **$500,000** |
| **Miss Effie Graves Scholarship Fund**<br>Geological Sciences student scholarships | **$28,181** | **$72,796** |
| **Guy E. Green Endowed Presidential Scholarship**<br>Geology scholarships, any level | **$33,928** | **$77,767** |
| **J. Nalle Gregory Chair in Sedimentary Geology**<br>Development of program of excellence in sedimentary geology, income supplements salary and supports research of recipient | **$732,458** | **$1,424,042** |
| **J. Nalle Gregory Regents Professorship in Geological Sciences**<br>Income supplements salary and supports research of recipient | **$321,895** | **$563,099** |
| **Thelma Lynn Guion Geology Staff Award**<br>For recognition of excellence by Geology Library staff | **$13,572** | **$17,636** |
| **Karl Frederick Hagemeier, Jr. Memorial Endowed Presidential Scholarship**<br>General geology scholarships, any level, with preference to students from Brazoria or Kerr counties | **$44,329** | **$79,591** |
| **George S. Heyer Memorial Fund**<br>Any purpose of the Foundation | **$99,137** | **$245,705** |

| | Book Value | Market Value |
|---|---|---|
| **Bill D. Holland Endowed Presidential Scholarship in Geological Sciences**<br>Scholarship for a Texas student who plans to pursue a career in the oil and gas industry | $29,621 | $34,388 |
| **Houston Oil and Mineral Corporation Faculty Excellence Awards**<br>In recognition of outstanding service and special contributions to the teaching and research programs | $56,310 | $126,478 |
| **F. Earl Ingerson Graduate Research Assistance Fund in Geochemistry**<br>Research assistance to graduate students in geochemistry | $57,868 | $96,658 |
| **John A. and Katherine G. Jackson Centennial Teaching Fellowship in Geological Sciences**<br>Income supplements salary and supports research of junior faculty member | $246,881 | $304,774 |
| **John A. and Katherine G. Jackson Fellowship in Geohydrology**<br>Graduate fellowships in geohydrology | $165,240 | $319,484 |
| **John A. and Katherine G. Jackson Exploration Geophysics Fund**<br>Supports Department's activities in the area of exploration geophysics | $25,000 | $25,000 |
| **G. Moses and Carolyn G. Knebel Teaching Fund**<br>To promote teaching excellence in geological sciences | $97,211 | $214,876 |
| **Martin B. Lagoe Student Research Fund for Micropaleontology**<br>Support of students studying in the area of micropaleontology | $30,449 | $37,153 |
| **Clara Jones Langston Centennial Lectureship in Vertebrate Paleontology**<br>To provide for guest lectures in vertebrate paleontology | $24,716 | $53,085 |
| **J. Donald Langston Special Operations Fund**<br>Purchase teaching and research equipment | $269,041 | $443,756 |
| **Wann and Marietta Langston Research Fund in Vertebrate Paleontology**<br>Faculty research in vertebrate paleontology | $119,874 | $258,313 |
| **Jack K. Larsen-Mesa Petroleum Company Fund in Sedimentary Geology**<br>Support of student fieldwork in sedimentary geology | $154,930 | $344,987 |
| **Howard R. Lowe Vertebrate Paleontology Endowment**<br>Support of student fieldwork in vertebrate paleontology | $35,104 | $78,300 |
| **J. Hoover Mackin Memorial Scholarship Fund**<br>Graduate geology scholarship | $25,918 | $58,088 |
| **George W. Marshall, Jr. Memorial Endowed Presidential Scholarship**<br>Graduate scholarships in general geology | $39,334 | $62,761 |
| **Jack H. Mayfield, Jr. Fund for Excellence in the Geological Sciences**<br>For innovative projects in geoscience instruction and research and for unrestricted support for continuing programs of teaching and research | $461,500 | $771,305 |
| **John H. and Lujza McCammon Endowed Scholarship**<br>Upper-division undergraduate scholarships | $12,640 | $29,799 |
| **Mr. and Mrs. L. F. McCollum Scholarship in Geology**<br>Geology scholarships, any level | $20,909 | $51,078 |
| **Michaux Scholarship Fund**<br>Geology scholarships, any level | $12,283 | $27,740 |
| **Joan A. Middleton Endowed Scholarship in Geology**<br>Geology scholarship to students, especially hydrogeology students | $10,557 | $12,853 |
| **Carroll C. Miller Endowed Presidential Scholarship**<br>Geology scholarship to students pursuing careers in energy industries, preference to students from South Texas | $34,632 | $79,508 |
| **William R. Muehlberger Field Geology Scholarship Fund**<br>To support field studies at graduate or undergraduate levels | $97,043 | $139,414 |
| **Wes Ogden Memorial Scholarship in Geophysics**<br>Geophysics scholarships to students pursuing careers in energy industries | $13,224 | $22,988 |
| **Fred L. and Frances J. Oliver Lectureship in Texas Hydrology and Water Resources**<br>To provide for guest lectures in water resources | $72,074 | $135,118 |
| **Judd H. Oualline Endowment Fund**<br>For special needs of the Department | $21,584 | $44,900 |
| **Judd H. and Cynthia Oualline Centennial Lectureship in Geological Sciences**<br>To provide for guest lectures in geological sciences | $96,898 | $166,323 |

| | Book Value | Market Value |
|---|---|---|
| **Judd H. and Cynthia Oualline Centennial Lectureship in Petroleum Geology**<br>To provide for guest lectures in petroleum geology | **$89,656** | **$154,996** |
| **Ed Owen-George Coates Fund**<br>Publication of geological research by faculty and graduate students | **$119,180** | **$270,533** |
| **James C. Patterson Fund for Excellence in the Geophysical Sciences**<br>To support excellence in the geophysical sciences | **$40,830** | **$41,596** |
| **Bill R. Payne Centennial Teaching Fellowship**<br>Income supplements salary and supports research of junior faculty member | **$101,675** | **$203,367** |
| **Joyce Bowman Payne Centennial Teaching Fellowship**<br>Income supplements salary and supports research of junior faculty member | **$103,309** | **$194,658** |
| **Pennzoil and Pogo Producing Companies-William E. Gipson Scholarships**<br>Scholarships for UT graduates seeking Master's degrees at UT | **$186,291** | **$338,850** |
| **O. Scott Petty Geophysical Fund**<br>Development of program of excellence in geophysics | **$210,925** | **$444,158** |
| **Wallace E. Pratt Professorship in Geophysics**<br>Development of program of excellence in geophysics, income supplements salary and supports research of recipient | **$219,928** | **$460,916** |
| **Louis and Elizabeth Scherck Geology Scholarship**<br>Undergraduate (upper division) and graduate scholarship | **$111,791** | **$211,505** |
| **Wilton E. Scott Centennial Professorship**<br>Income supplements salary and supports research of recipient | **$290,776** | **$652,271** |
| **Walter Benona Sharp Memorial Scholarship in Geological Sciences**<br>Scholarship in petroleum or field geology | **$43,382** | **$105,543** |
| **Shell Companies Foundation Centennial Chair in Geophysics**<br>Income supplements salary and supports research of recipient | **$1,235,635** | **$2,389,927** |
| **Shell Companies Foundation Distinguished Chair in Geophysics**<br>Income supplements salary and supports research of recipient | **$1,029,545** | **$2,078,001** |
| **F. W. Simonds Endowed Presidential Scholarship in Geological Sciences**<br>Scholarship to undergraduate (upper division) and graduate students | **$30,476** | **$76,523** |
| **William T. Stokes Centennial Teaching Fellowship in Geological Sciences**<br>Income supplements salary and supports research of junior faculty member | **$158,022** | **$337,084** |
| **Structural Geology and Tectonics Fund**<br>For support of faculty and student research in structure and tectonics | **$122,167** | **$215,775** |
| **Harlan Tod Sutherland Memorial Scholarship Fund**<br>For summer research support for graduate students | **$41,949** | **$79,063** |
| **John and Elizabeth M. Teagle Scholarship in Petroleum Geology**<br>For scholarships to students with interest in petroleum geology | **$708,447** | **$1,256,616** |
| **David S. Thayer Memorial Scholarship Fund**<br>Senior field course scholarship | **$30,717** | **$71,270** |
| **Tobin International Geological Map Collection Fund**<br>For purchase of maps and photos, storage and viewing facilities for these items | **$84,269** | **$206,780** |
| **Udden Memorial Scholarship Fund**<br>Geology scholarships, any level | **$17,505** | **$32,951** |
| **Glenn and Martha Vargas Endowed Presidential Scholarship**<br>Graduate-level scholarship in geological sciences | **$39,331** | **$61,997** |
| **Glenn and Martha Vargas Gemological Scholarship in Geological Sciences**<br>Scholarships for students interested in gemology or mineralogy | **$18,366** | **$34,561** |
| **Glenn and Martha Vargas Endowment for Gems and Gem Minerals Instruction**<br>For course-related materials and instruction on gems and gem minerals | **$69,944** | **$122,808** |
| **Glenn and Martha Vargas Fund for Gem and Mineral Curation**<br>For curating and maintaining the gem and mineral collections of the Department | **$31,000** | **$35,470** |
| **Joseph C., Jr. and Elizabeth C. Walter Geology Library Fund**<br>Acquisition of books, maps, and other library materials | **$703,247** | **$1,042,654** |

| | Book Value | Market Value |
|---|---|---|
| **Albert W. and Alice M. Weeks Centennial Professorship in Geological Sciences**<br>Income supplements salary and supports research of recipient | **$210,808** | **$413,936** |
| **Albert W. and Alice M. Weeks Fund in Geology**<br>Scholarships in geological sciences, any level | **$580,070** | **$956,231** |
| **E. A. Wendlandt Fund**<br>Purchase of books and journals in German or English translations | **$8,723** | **$19,549** |
| **Arno P. (Dutch) Wendler Professional Development Fund**<br>Support of graduate student presentations at professional meetings | **$120,351** | **$262,552** |
| **Francis L. Whitney Endowed Presidential Scholarship**<br>Geology scholarships, any level, paleontology and stratigraphy preferred | **$47,933** | **$111,931** |
| **Francis L. Whitney Memorial Book Fund**<br>Purchase of paleontological books for library | **$44,663** | **$75,514** |
| **Addison A. and Mary E. Wilkinson Endowed Presidential Scholarship in Geological Sciences**<br>Geology scholarships for graduate and undergraduate students | **$51,688** | **$60,868** |
| **John A. Wilson Professorship in Vertebrate Paleontology**<br>Development of program of excellence in vertebrate paleontology, income supplements salary and supports research of recipient | **$180,165** | **$361,499** |
| **Charles E. Yager Undergraduate Field Scholarship Fund**<br>Support for students taking GEO 660 | **$56,565** | **$127,894** |
| **The First, Second, Third Mr. and Mrs. Charles E. Yager Professorships**<br>Three professorships in any discipline for faculty who participate in field instruction | **$494,586** | **$1,151,433** |

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Lakeshore Ranch
17800 Inspiration Circle
Lago Vista, TX 78645-9706
Telephone (512) 267-2846
Fax (512) 267-0915

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**Mr. L. Decker Dawson**
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Dawson Geophysical Co.
508 West Wall, Suite 800
Midland, TX 79701-5010
Telephone (915) 682-7356
Fax (915) 683-4298

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## Members

**Dr. David S. Birsa**
c/o Amoseas Singapore
One Scotts Road, #22-08
Shaw Center
Singapore 228208
Telephone (713) 754-2874
Fax (713) 754-2880

**Mr. Keith R. Brownlee**
Consultant
5004 Bellerive
Dallas, TX 75287
Telephone (972) 931-1502
Fax (972) 931-8068

**Mr. Thomas M. Burke**
Consultant
8519 Manhattan Drive
Houston, TX 77096-1316
Telephone (713) 667-8564

**Mr. A. T. (Toby) Carleton**
President
Tocor Exploration
414 West Texas Ave., #308
P. O. Box 293
Midland, TX 79702-0293
Telephone (915) 685-1209
Fax (915) 685-1229

**Mr. Richard M. Coffelt**
Vice President
World Wide Exploration
Phillips Petroleum Co.
1500 Plaza Office Bldg.
Bartlesville, OK 74005-1500
Telephone (918) 661-4282
Fax (918) 662-2780

**Mr. Weyman W. Crawford**
10026 Sugar Hill Drive
Houston, TX 77042-1540
Telephone (713) 782-0595

**Mr. Dodd W. DeCamp**
Vice President, Exploration
ARCO
2300 West Plano Parkway
Plano, TX 75075
Telephone (972) 509-4600
Fax (972) 509-4057

**Dr. Rodger E. Denison**
15141 Kingstree Drive
Dallas, TX 75248-5210
Telephone (972) 239-9709
Fax (972) 233-2678

**Mr. George A. Donnelly, Jr.**
President
The Eastland Oil Company
P. O. Box 3488
Midland, TX 79702-3488
Telephone (915) 683-6293
Fax (915) 683-6295

**Mr. Thomas E. Fanning**
20 Tiburon Drive
Austin, TX 78738-1556
Telephone (512) 261-4285
Fax (512) 261-9620

**Mr. James A. Gibbs**
1220 One Energy Square
4925 Greenville Avenue
Dallas, TX 75206-4026
Telephone (214) 363-3008
Fax (214) 363-5734

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President
Baker Hughes E&P Solutions
10011 Meadowglen Lane
Houston, TX 77042
Telephone (713) 972-6382
Fax (713) 972-6380

**Ms. Robbie R. Gries**
President
Priority Oil & Gas Company
633 17th Street
Suite 1520
Denver, CO 80202-3615
Telephone (303) 296-3435
Fax (303) 296-3436

**Dr. Charles G. Groat**
Director
U.S. Geological Survey
M.S. 100
12201 Sunrise Valley Drive
Reston, VA 20192
Telephone (703) 648-7411
Fax (703) 648-4454

**Dr. Paul R. Gucwa**
Manager, U. S. Exploration
Marathon Oil Company
P. O. Box 3128
Houston, TX 77253-3128
Telephone (713) 296-3400
Fax (713) 296-4590

**Mr. W. Douglas Hall**
The W. D. Hall Company
P. O. Box 161656
Austin, TX 78716
Telephone (512) 306-8444
Fax (512) 306-0471

**Mr. George M. Harwell, Jr.**
14918 River Forest Drive
Houston, TX 77079-6327
Telephone (281) 493-1719
Fax (281) 493-1719

**Mr. David S. "Scotty" Holland**
1 River Way
Suite 1700
Houston, TX 77056-1904
Telephone (713) 552-1074
Fax (713) 552-1095

**Mr. Charles J. Hooper**
2111 Pine Valley Drive
Houston, TX 77019-3507
Telephone (713) 524-9841

**Dr. John R. Hopkins**
Vice President
Technology/Exploration Production
Conoco Inc.
600 North Dairy Ashford Road
P. O. Box 2197, NS 2026
Houston, TX 77252
Telephone (281) 293-4353
Fax (281) 293-5038

**Mr. Mark S. Leonard**
President
Shell EP International Ventures, Inc.
P. O. Box 4741
Houston, TX 77210
Telephone (281) 544-3636
Fax (281) 544-4228

**Dr. Susan A. Longacre**
Senior Scientist
Texaco Fellow
Texaco E&P Technology Dept.
3901 Briarpark
Houston, TX 77042
Telephone (713) 954-6068
Fax (713) 954-6113

**Ms. Pamela Luttrell**
Vice President, Global Operations
Mobil New Exploration and
Producing Ventures
New Business Areas
P. O. Box 650232
Dallas, TX 75265-0232
Telephone (214) 951-4144
Fax (214) 951-2104

**Mr. Vance M. Lynch**
3701 CR 258
Liberty Hill, TX 78642
Telephone (512) 515-5358
Fax (512) 778-6605

**Mr. David F. Martineau**
Exploration Manager
Pitts Oil Company
4600 Greenville Avenue
Dallas, TX 75206-5038
Telephone (214) 369-9266
Fax (214) 369-3864

**Mr. Jack H. Mayfield, Jr.**
Goldston Oil Corporation
P. O. Box 570365
Houston, TX 77257-0365
Telephone (713) 355-3408
Fax (713) 355-3429

**Mr. Harry A. Miller, Jr.**
303 West Wall
Suite 600
Midland, TX 79701-5114
Telephone (915) 682-8731
Fax (915) 682-9650

**Mr. Fred L. Oliver**
President
PVT, Inc.
4625 Greenville Avenue
Suite 205
Dallas, TX 75206
Telephone (214) 739-2895
Fax (214) 987-3776

**Mr. James C. Patterson**
12331 Broken Arrow St.
Houston, TX 77024-4962
Telephone (713) 827-0611

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719 Scott Avenue, Suite 700
Wichita Falls, TX 76301-2669
Telephone (940) 723-6657
Fax (940) 322-9034

**Mr. George W. Schneider, Jr.**
P. O. Box 9399
Metairie, LA 70055-9399
Telephone (504) 482-9399
Fax (504) 830-4543

**Mr. Don B. Sheffield**
3741 Chevy Chase Drive
Houston, TX 77019-3011
Telephone (713) 622-6228

**Mr. Russell G. Slayback**
4 Increase Lane
Green Farms, CT 06436
Telephone (203) 255-2950
Fax (203) 452-3111

**Mr. Richard R. (Dick) Standaert**
Manager
EDS
Energy Industry Group
H1-6D-24
5400 Legacy Drive
Plano, TX 75024
Telephone (972) 605-7897
Fax (972) 208-3229

**Mr. William T. Stokes**
Consultant
7703 Southwestern Blvd.
Dallas, TX 75225-7929
Telephone (214) 369-4788

**Mr. David B. Story**
Exxon Exploration Co.
233 Benmar
Houston, TX 77060
Telephone (281) 423-5241
Fax (281) 423-7381

**Mr. Joseph E. Sullivan**
Project Manager
West Africa New Ventures
Unocal Corporation
14141 Southwest Freeway
Sugar Land, TX 77478
Telephone (281) 287-5512
Fax (281) 287-5145

**Mr. Charles G. Weiner**
Chairman
Texas Crude Energy, Inc.
P. O. Box 56586
Houston, TX 77256-6586
Telephone (713) 599-9900
Fax (713) 599-9910

**Mr. Phillip E. Wyche**
126 Firebird Street
Austin, TX 78734-3808
Telephone (512) 261-4721
Fax (512) 261-4722

## Honorary Life Members

**Dr. Thomas D. Barrow**
5847 San Felipe
Suite 3830
Houston, TX 77057-3011
Telephone (713) 789-0090
Fax (713) 789-0192

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250 Cape May
Corpus Christi, TX 78412
Telephone (512) 991-8618
Fax (512) 991-9685

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3718 Bridle Path
Austin, TX 78703-2005
Telephone (512) 480-0044

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Gas Fund, Inc.
808 Travis Street
Suite 1512
Houston, TX 77002-5702
Telephone (713) 227-1003
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10325 Gaywood Road
Dallas, TX 75229-6608
Telephone (214) 368-8153

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*As of 9/1/99*

# Memorials

## Joseph Benjamin Avant

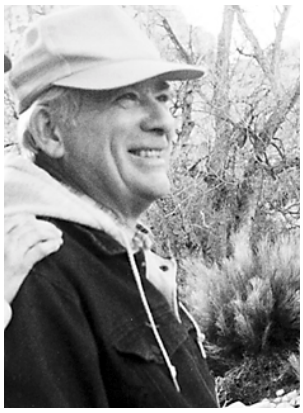
Joseph Benjamin Avant was born on July 10, 1922, in Millett, Texas. He passed away on March 10, 1999, in Dallas at the age of 76. He graduated from the University of Texas, Austin in 1951 with a B.S. in Geology. After moving to Dallas in 1955, he was employed as an independent geologist with W. H. Hudson Co. for 42 years. He served as President of GNC Energy from 1974 to 1978 and Vice-President from 1978 to 1991. He also served as Vice-President of Rocanville Corp. from 1957 to 1991. He is survived by his children, Sara S. Avant-Stanley, Seth E. Avant, and Sander J. Avant, by his grandchildren, Blair, Jorden, and Carson, and by his brother, John F. Avant.

## J. D. Brock, Jr.

J. D. Brock, Jr., formerly from McAllen, Texas, but more recently from Austin, Texas, passed away on April 12, 1999. Mr. Brock was born in Dallas, Texas, on July 19, 1927. He graduated from the University of Texas, Austin in 1951 with a Bachelor's degree in Geology. Mr. Brock then received a law degree from the University of Texas, Austin Law School in 1957. He is survived by his wife, Kathryn Bonar Brock, his sons, Stephen E. Brock and David R. Brock, his granddaughters, Clare and Hannah, and his two brothers, James R. Brock and William E. Brock.

## Ralph V. Carson, Jr.

Ralph V. Carson, Jr. died May 24, 1999, in Chadds Ford, Pennsylvania, at the age of 66. Mr. Carson received a B.S. in Geology from the University of Texas, Austin in 1955. He then went on to earn an M.B.A. at UT Austin in 1964. He was employed as a geophysicist with Exxon and in various financial positions with Conoco, Inc. He is survived by his wife, Irene Robertson Carson, and his mother, Ruth Davidson Carson.



*Richard A. Crawley (1934-1998). Photo provided by Mrs. Ginny Crawley.*

## Richard (Dick) A. Crawley

Richard (Dick) A. Crawley died October 13, 1998, in his hometown of Louisville, Kentucky, of complications from chronic mylegonous leukemia. He had retired in 1994 after working 21 years for the U.S. Department of Energy. He spent two years in Austin, Texas, and eight years in Grand Junction, Colorado, working on uranium research for the U.S. Department of Energy. He then spent two years working at the Waste Isolation Pilot Project (WIPP) site outside Carlsbad, New Mexico. This site was selected to evaluate the storage of low-level radwaste in salt deposits in the New Mexico desert. He followed this with nine years in Las Vegas, Nevada, with the multidisciplinary group evaluating Yucca Mountain as a potential high-level radwaste site. Dick was born October 27, 1934. He was a veteran of the U.S. Army. He received his B.S. degree from the University of Kentucky and both his M.A. (1969) and Ph.D. (1975) degrees from the Department of Geological Sciences at The University of Texas at Austin. In the early summer of 1965, Sanderson, Texas, was the site of a catastrophic flood that resulted in considerable property damage and the death of several people. Dick studied the geomorphology and sedimentologic aspects of the flood for his Master's thesis. His thesis provided data and documentation that was subsequently used by historians and flood-control planners. His dissertation was on the Cañon del Tule Formation, a thick Cretaceous pro-delta/shelf sequence in the Parras Basin in northern Mexico. His research reports were incredibly detailed and thorough. His fieldwork overlapped in time other field studies in the region by Bob Baker, Bob Laudon, Bill Wilbert, Jim Wolleben, and Earle McBride. Dick was a person with great curiosity and great compassion. He could see the bright side of trying events and cantankerous people. Fly fishing was his favorite pastime. He is survived by his wife, the former Genny Sine, also of Louisville, three stepchildren, and five grandchildren.

## William Edmon Dunaway

William Edmon Dunaway died on April 4, 1999. He was born on March 18, 1936, and received an M.A. in Geology from the University of Texas, Austin in 1962. He spent 32 years of his life as a geologist in the oil and gas industry. Mr. Dunaway is survived by his wife, Loretta Davis Dunaway, his son, Bryan, his sons and daughters-in-law, Bruce and Karen and Ethan and Kim, and his grandchildren, Austin and Amanda

## Judge Dinsmore Finley

Judge Dinsmore Finley, age 70, a geologist of Austin, Texas, passed away October 9, 1998. He received his undergraduate degree at Stanford University and his Master's in Geology in 1954 from the University of Texas, Austin. He was a published member of the American Association of Petroleum Geologists and was widely recognized for his

contributions to the science. Judge is survived by his wife, Jo Ellen Larkin Finley, his sons and daughters-in-law, Davis and Nancy Newton Finley, Timothy and Ann Grady Finley, John and Donna Rosenthal Finley, and Richard and Kathleen Stacey Finley, his grandchildren, Frances, Edmund, Rosalind, Ann Marie, Claire, Thomas, Elizabeth, Jack, Joseph, Judge II, Emily, Kathleen, and Erin, and his brother, Mark Finley, Jr., and Mark's wife, Jo Ann Bland Finley. He is also survived by three stepchildren, their spouses, and their children.

## James C. Freeman

James C. Freeman passed away March 31, 1999. He received his B.S. in Geology from the University of Texas, Austin in 1943 and M.S. in Geology from the University of Colorado in 1947. Jim was employed with Magnolia Petroleum Company and McCarrick and Stewart Company in San Antonio, Texas. He became an independent in 1952 in Corpus Christi, Texas. Jim will long be remembered as forming the first geological library in Corpus Christi, the Geological Information Service. It merged with the Bahia Log Library and then into the Corpus Christi Geological Library. He was a long-time member of the Corpus Christi Geological Society.

## Nathan Bennett Gary, Jr.

Nathan Bennett (Jake) Gary, Jr. was born on May 25, 1934, in Sherman, Texas. He received his B.A. from the Department of Geology at the University of Texas, Austin in 1956. He lived in Bowie, Texas, and died on April 14, 1998, at the age of 63.

## Robert Wentworth Gilstrap

Robert Wentworth Gilstrap, formerly of Rosebud, Texas, died on April 17, 1999, at the age of 66. He was born September 2, 1932, graduated from Austin High, and lived in Austin, Kerrville, and Rosebud. He attended the University of Texas, Austin in 1951 where he majored in Geology and played football his freshman year. He was a member of Phi Delta Theta fraternity and The Bachelors of Austin. He was a Lieutenant in the U.S. Army and worked in the oil and gas industry. He is survived by his wife, Mary Gilstrap, of Rosebud.

## Thomas Edgar Harris

Thomas Edgar Harris died at the age of 68 on March 2, 1999. He received a B.S. in Geology from the University of Texas, Austin in 1957. He served in the U.S. Navy and was employed at Pan American (Amoco) Coastal States and American Shoreline. He was a member of the American Association of Petroleum Geologists and the Corpus Christi Geological Society. He is survived by his children, Monica Ann Carter, Robert McRae Harris, and Deborah Lynn Schwartz, and grandchildren, Jennifer, Stuart, and Jacob Harris, and Trevor Schwartz.

## Paul B. Hinyard

Paul B. Hinyard was born on April 8, 1903, and passed away on August 26, 1998, in Tyler, Texas. He received a B.A. in Geology from the University of Texas, Austin in 1928 and was employed by Shell Oil Co. as an oil scout and later as an exploration manager. He retired from Shell in 1968 after having served that company for 40 years. While with Shell Oil Co., Mr. Hinyard earned the distinction of having found more oil for the company than any other employee. Among other organizations, Mr. Hinyard was a member of the East Texas Geological Society and the American Association of Petroleum Geologists. He is a Mason and a Shriner. His survivors include his wife, Zelma Payne Hinyard, a daughter, Louise Hinyard Harrison, a stepson and his wife, Frank and Gail Payne, four granddaughters, a grandson, and six great-grandchildren.

## Robert M. Hutchinson

Robert M. Hutchinson died January 13, 1999, at the age of 80 from injuries received in an accident. He was born on December 24, 1918. He received a B.A. in Economic Geology from Princeton University in 1941, an M.A. in Geology from the University of Michigan in 1948, and a Ph.D. from the University of Texas, Austin in 1953. He spent most of his life (42 years) teaching in the Department of Geology and Geological Engineering at the Colorado School of Mines. Earlier in his life, he worked at the U.S. Army Corps of Engineers in Trinidad building air bases, at the U.S. Geological Survey in Washington, D.C. in the Strategic Minerals Branch, as Instructor at the University of Texas, Austin, and on the faculty at Kansas State University. He was still active in teaching his Optical Mineralogy Course at Colorado School of Mines and as a consulting geologist at the time of his death. He is survived by his wife, Bette, eight children, and six grandchildren.

## Elbert Aubrey King, Jr.

Elbert Aubrey King, Jr., a planetary geologist, was born in Austin, Texas. He received his B.S. in 1957 and M.A. in 1961 in Geology from the University of Texas, Austin, and his Ph.D. from Harvard. He was the first curator of NASA's Lunar Receiving Laboratory and Professor in the Geosciences Department at the University of Houston. He died in Houston on December 12, 1998, of complications from Parkinson's

## James Donald (Don) Langston

James Donald (Don) Langston of Kailua-Kona, Hawaii, formerly of Jacksboro, Texas, died on September 26, 1998, in Prescott, Arizona, at the age of 72. Mr. Langston was born on April 22, 1926. He received a B.S. in Geology in 1949 from the University of Texas, Austin. After a long and distinguished career with Exxon, he retired as Vice-President of Exploration in 1983. He was a member of the American Association of Petroleum Geologists and an Honorary Life Member of the Geology Foundation Advisory Council. He was a veteran of World War II. He is a Mason at the Fort Richardson Texas Masonic Lodge. Don created the J. Donald Langston Special Operations Fund and he and Ginny the J. D. and V. L. Langston Endowed Scholarship Fund in Geology and Geophysics in the Geology Foundation. Mr. Langston's survivors include his wife, Virginia Langston, and one brother, Gordon Langston.

disease. He is survived by his wife, Sharon Lee Witherow, and his two daughters, Lisa Marie King and Cynthia Dawn King.

## Paul R. Mayo

Paul R. Mayo, 72, formerly of Dallas, died October 21, 1998, in Abilene, Texas. Mr. Mayo received a B.S. in Geology from the University of Texas, Austin in 1950. He was employed by Bridwell Oil Company in Wichita Falls from 1950 to 1952 and Consolidated Oil until 1954. He then became an independent geologist and oil operator. He was a member of the West Texas Geological Society and the American Association of Petroleum Geologists. Survivors include his wife, his son, Randy Mayo, his stepdaughter, Michelle Harrison, his two stepsons, Greg Foust and Mark Foust, his mother, Earline Mayo, and 11 grandchildren.

## K. V. (Kinch) Northington, Jr.

K. V. (Kinch) Northington, Jr., age 74, died March 15, 1999, in San Antonio, Texas, following a recent heart attack. He was born April 8, 1924, in Ballinger. He graduated from the University of Texas, Austin in 1951 with a B.A. in Geology. After graduation, he was employed by Baroid on a logging unit in Texas and Oklahoma. Later, he was head geologist and exploration manager for Thomas D. Humphrey of Dallas. Mr. Northington was a geologist and oil operator having been instrumental in the discovery of several oil fields in Tom Green, Runnels, and Schleicher counties. He was a founding partner and officer of Fortune Drilling Company in San Angelo. He operated Northington & Associates, Inc. as an independent and after retirement continued as a consulting geologist. He was a member of the San Angelo Petroleum Club and Permian Basin Petroleum Association. He is survived by his wife, Anna Roberts Northington, and two children, K. V. (Tye) Northington and Lisa Northington Gordon, and one granddaughter, Tawna Northington.

## Robert William Orr

Robert William Orr died in July of 1997. He received an M.A. in Geology in 1964 from the University of Texas, Austin. He was a Professor of Geology in the Geography and Geology Department at Ball State University in Muncie, Indiana, where he was a member of the faulty for almost 30 years and Chair of the Department for 6 years in the 1980's. He is survived by his three children and his brother.

## L. W. (Dub) Owens

L. W. (Dub) Owens, 71, formerly of Temple, Texas, died on February 9, 1999, in Houston after a brief illness. Mr. Owens was born in Mt. Pleasant, Texas, on December 11, 1927. He graduated from Daingerfield High School and from the University of Texas, Austin with a Bachelor's Degree

in Geology in 1951. He worked as a geologist for 40 years. He served in the U.S. Marine Corps during World War II. He is survived by his daughter, Beth Gerdes, sons, Mark and Matt Owens, and five grandchildren.

## Jacob Luther (Jake) Patton

Jacob Luther (Jake) Patton, age 90, of Tyler, Texas, died on December 17, 1998. He received a B.A and an M.A. in Geology in 1932 from the University of Texas, Austin. Mr. Patton was born in Morganton, North Carolina, on September 23, 1908. He worked for Humble Oil & Refining Company and in 1955 became Exploration Manager of the East Texas Division in Tyler, Texas. In 1959, he become an independent petroleum geologist, a calling he pursued until his death. Mr. Patton was a Member Emeritus of the American Association of Petroleum Geologists, member of the Tyler Petroleum Club, which honored him as the "Old Timer" of the year in 1987, and was on the Development Board of the University of Texas. He is survived by his wife, Edith Perkins Patton, his son and daughter-in law, John Jacob and Barbara Patton, his daughter and son-in-law, Paula Patton and Michael Quinn, his five grandchildren, John William Patton, Polly Kathryn Patton, Patton Halliday Quinn, Jacob Patrick Quinn, and Paul Perkins Quinn, and his two great grandchildren.

## Charles Benham Renaud

Charles Benham Renaud was born on October 19, 1926, in Abilene, Texas. He died on July 10, 1998. He received a B.A. in 1949 and an M.A. in 1950 in Geology from the University of Texas, Austin. He was employed by Sojourner Drilling Company in Abilene. In 1951, he worked for Westexas Oil and Royalty Corporation in Fort Worth, founded by T. Mann Pettymann and Charles L. Renaud. He then began a long career as an independent oilman. Mr. Renaud was the operating general partner of Renaud Minerals Ltd. He was a member of the West Texas Geological Society, Society of Independent Professional Earth Scientists, American Association of Petroleum Geologists, Petroleum Club of Fort Worth, and Petroleum Club of Midland. He is survived by his wife, Zuma Burrow Renaud, his daughters, Ellen R. Pulliam and Sara R. Pulliam, his sons, C. Louis Renaud, David J. Renaud, and Christopher P. Renaud, and his five granddaughters and six grandsons.

## Donald F. (Sandy) Sandifer

Donald F. (Sandy) Sandifer, born March 26, 1912, in Robertson County, Texas, died October 13, 1998. He graduated from the University of Texas, Austin in 1935 with both a B.S. and an M.A. in Petroleum Geology. He was responsible for the discovery of the Carrizo Springs oil field. He was a member of the American Association of Petroleum Geologists, South Texas Geological Society, and the American Petroleum Institute. He was employed by Stanolind Oil and Gas Company and later as a geological scout and subsurface geologist. He then went on to work for Transwestern Oil Company and opened the geological office for Anderson Pritchard. In his later years, he was a consulting geologist. He is survived by his wife, Louise, his children, Jan Perez, Penn Sandifer, and Susan White, his nine grandchildren, his four great-grandchildren, his brother, Leon Sandifer; and his sister, Vermelle Cook.

## Marion I. Whitney

Marion I. Whitney, 87, of Shepherd, Michigan, passed away on September 16, 1998. She was born on April 23, 1911, in Austin, Texas. She graduated with honors in Geology in 1930, received her M.A. in paleontology in 1931, and her Ph.D. in geology, paleontology, and botany in 1937, all from the University of Texas, Austin. She started her career in teaching in the Austin public schools. She taught at Texas Christian University and Tulane University. She went to Central Michigan University in 1960 and taught there until her retirement. Her publications included paleontological research on the Glen Rose Formation in Central Texas and aerodynamic erosion research. She was a member of the Geological Society of America, the American Association of Petroleum Geologists, the Society of Economic Paleontologists and Mineralogists, the American Association for the Advancement of Science, among others. She is survived by several cousins.

We have learned of the death of the following persons, but have no additional information:

**Diana Grunig Catalan**
(Attended 1971)

**John Chatmas, II**
(B.A., 1941)

**Mrs. James S. Leeper**
(B.A., 1907)

**Mrs. Clarence H. McCall**
(B.A., 1920)

**Cynthia Sheffield Ming**
(B.A., 1941)

**Angelo Pete Shropulos**
(B.A., 1949)

**William Youngblood**
(B.A., 1951)

# Notes from the Alumni

## Alumni Honors

**Don R. Boyd** (B.S., 1958) Special Commendation Award, Gulf Coast Association of Geological Societies.

**Charles G. Groat** (Ph.D., 1970) Ian Campbell Medal, American Geological Institute.

**H. Louis Lee** (B.A., 1954, M.A., 1958) Chairman, Society of Independent Professional Earth Scientists, Austin Chapter.

**Charles J. Mankin** (B.S., 1954, Ph.D., 1958) Ben H. Parker Medal, American Institute of Professional Geologists.

**Daniel N. Miller, Jr.** (Ph.D., 1955) 50-year distinguished recognition award (for the class of 1949) alumni from what used to be Missouri School of Mines and Metallurgy at Rolla, Missouri.

**David C. Noe** (M.A., 1984) 1998 Research Award in Environmental Geology from AAPG-DEG and the 1998 John C. Frye Memorial Award in Environmental Geology from GSA-AASG.

**James A. Ragsdale** (M.A., 1960) Distinguished Service Award, Houston Geological Society.

**Robert T. Sellars, Jr.** (B.S., 1957) will finish his three years on the D.P.A. Executive Committee in July.

**Peyton O. Abbott** (B.S., 1950) is a retired hydrogeologist in Pueblo, Colorado, e-mail address abbottp@market1.com.

**Samuel C. Adair, Jr.** (B.S., 1956), retired from Exxon writes, "Still enjoying retirement on Lake Conroe. Doris and I travel as much as possible while we still have our health. In January, we took a cruise on the *Grand Princess* (the floating island). In April, we will be going to Hawaii with our son and his wife, and in June we will be taking another cruise with our daughter and her family. I really enjoy the *Newsletter*, thanks."

**G. Baxter Adams, Jr.** (B.S., 1951, M.A., 1953), who resides in Medina, Texas, writes, "I've retired from oil and gas exploration but am busier than ever raising apples and propagating maple trees on a beautiful ranch in the Hill Country west of Kerrville. You can taste the apples at Adams Apples in Kerrville or the cider mill in Medina. Come see us!" His e-mail address is badams@hctc.net.

**James W. Adams** (B.A., 1948) is retired in Conroe, Texas, and writes, "Waiting for new knees to provide transportation on the golf course."

**Jim W. Adams** (B.S., 1951) is a consulting geologist in Midland, Texas, whose e-mail address is JWAdams2@aol.com and who writes, "Enjoying semi-retirement. Continue to run fieldtrips to the Guadalupe, Sacramento, Glass, and Franklin Mountains. President of Exxon Annuitants in Midland. On youth committee of National AAPG. Greatest delight? Six and one-half grandchildren."

**William H. Adamson, Jr.** (B.S., 1951) is a retired geologist/geophysicist in Midland, Texas, and writes, "Looks like the petroleum business is getting flushed down the tubes. We need a change of political leadership from the top down. This isn't news, which you asked for, but it is the truth. We don't get the truth from our present leadership–not news. A statement of fact!"

**Floyd J. Adcock** (B.S., 1955) writes from Kilgore, Texas, "Still looking for oil and gas prospects in Gulf Coast and East Texas."

**Keg Alexander** (M.A., 1990) resides in Oakland, California, and is a hydrogeologist at Streamborn in Berkeley, California, e-mail address keg@streamborn.com, and writes, "My wife Mary and I are thrilled to introduce our son, Robert Brooks Alexander, born on December 31, 1998. Brooks is named for the Brooks Range, Alaska, where we have been fortunate to visit."

**John D. Alger** (B.S., 1985) is Vice-President of Alger Equipment Company, Inc. and lives in Round Rock, Texas, with an e-mail address of jdalger@juno.com.

**Nancy Jenswold Anderson** (B.A., 1950) is a consultant to a former business in Cedar Hill, Texas. She writes, "After 27 years as an urban planning consultant, I have turned over management and ownership of my business to a younger associate. Looking forward to a less structured life, more travel. Planning a trip to Big Bend. When I was a student at UT Austin, women students were not permitted to take the field course because of lack of separate facilities at Big Bend. That rule changed shortly after I graduated. Thus, my degree is a B.A."

**Payton V. Anderson** (B.S., 1945) is a partner at W.D. Anderson & Sons in Midland, Texas. He writes, "Evelyn (UT 1943-1945) and I have been married 53 years. Three daughters and six grandchildren. Still active in oil and gas exploration on a reduced scale. Main activities are travel and golf."

**Raymond H. (Pat) Anderson** (B.S., 1956) is retired from Texaco, Inc. in Richmond, Texas, and writes, "Happy to see crude back to $18/bbl! The merging of the major oil companies is sad in a way. I'm glad to be retired."

**Richard Anderson** (M.A., 1983) has an e-mail address of Richard.Anderson@seaslug.org and a Web address of www.halcyon.com/starfire.

**Edgar P. Armstrong** (B.S., 1951), resides in Houston, Texas. He writes, "Retired–enjoying season tickets with son and grandson to Longhorn football games. Also, spending large blocks of time volunteering and traveling with wife, Janelle."

**James Armstrong** (B.S., 1978) lives in Tyler, Texas, is a financial analyst, and writes, "I am still with Huntsman Petrochemical Corp. in Houston. I enjoy staying active with work, volunteering, and the cultural arts of the big city. I am planning a trip to Paris and the Provence region of France in June. Hello to all the gang from 1978." E-mail address is elmenhouse@aol.com.

**Gerald L. Atkinson** (B.S., 1983) is a Senior Exploration Geologist in Kingwood, Texas, e-mail address JerryAtkin@aol.com, writes us, "Beginning the 16th year with Exxon. Now working deepwater GOM and waiting to see how the impending merger with Mobil turns out."

**Gene M. Austin** (B.S., 1952) is a consulting petroleum geologist in Houston, Texas, and writes, "At age 76 I'm still very active. I dress myself and get to the office in time for lunch and a nap. I welcome visitors. My youngest son is in school there at the University of Texas."

**Arten J. Avakian** (M.A., 1989) of Austin, Texas, is a geologist with the Texas Natural Resource Conservation Commission, has an e-mail address of aavakian@tnrcc.state.tx.us, and writes, "Keeping busy in the intriguing, political, and frustrating world of environmental regulation in the main Texas environmental agency (TNRCC). Stop by and say hi if you are nearby."

**Sara S. Avant-Stanley** (B.S., 1978), with an e-mail address of savant1@ibm.net, is President of American Women's Association

of Indonesia, lives in Jakarta, and notifies us, "My father, Joseph B. Avant (B.S., 1951), passed away in March after a brave battle with cancer. He was an active independent geologist, retiring only in December 1998 when his health demanded it."

**Walter Ayers** (Ph.D., 1984) is a principal consultant with Schlumberger Holditch-Reservoir Technologies in College Station, Texas. His e-mail address is ayers@college-station.oilfield.slb.com.

**Carol Swenumson Baker** (B.S., 1984) is a geophysicist at Exxon Exploration Company in Houston, Texas, and writes, "The low oil prices and pending merger with Mobil will make this an uncertain year. Rodney and I stay busy with Grant (9) and Andrew ($3^1/_2$)."

**Kristen Barber** (B.S., 1994) is a geophysicist in Houston, Texas, e-mail address barber@houston.geco-prakla.slb.com.

**Thomas D. Barrow** (M.A., 1948) is Chairman of Tobin International in Houston, Texas, and writes, "In addition to running a Cotton Valley Reef exploration program in East Texas, and a Yegua-Wilcox program in the Gulf Coast, I put together a group to do a leveraged buyout of Tobin and a pair of satellite photo mapping companies. We have complete satellite photo coverage of the U.S.A." Tom is an Honorary Life Member of the Geology Foundation Advisory Council.

**Charles (Sandy) Beach** (B.S., 1987) is a geologist with Beach Exploration, Inc. in Midland, Texas, with an e-mail address of sbeachoil@msn.com.

**Joe Beard** (B.S., 1942) is retired in Wichita Falls, Texas.

**Bryan D. Beck, Jr.** (B.S., 1939) is a retired petroleum geologist and engineer, residing in Beaumont, Texas, and writes, "Tempus Fugits! Always appreciate the *Newsletter*. Thanks, with best wishes."

**Roy Beckelhymer** (B.S., 1952) writes, "Retired happily in Lakeway (Austin), Texas. Keeping busy going to Longhorn games, traveling, and trying to keep the computer updated and running. Plan to fly to Maryland and drive to Georgia to visit children and grandchildren this spring."

**Fred H. Becker** (B.S., 1983) and **Teresa (Harkrader) Becker** (B.S., 1982) are residing in Slidell, Louisiana. They work in New Orleans and write, "Fred is still working at Shell, but I just couldn't pass up the severance package that Amoco offered for closing its New Orleans office after the BP buyout, er…, I mean, 'merger.' I am doing part-time consulting and spending more time with the kids (and loving it!)" They may be e-mailed at fhbecker@shellus.com.

**Adrienne Beede** (B.S., 1998) resides in Helotes, Texas, is a geologist with Raba-Kistner Consultants in San Antonio, Texas, and e-mail address is gbeede1734@aol.com.

**Ellis S. Belfer** (B.S., 1987) is an engineer in Richardson, Texas, and writes, "Working two years at MCI Worldcom as an international data engineer. Attending at nights Southern Methodist University's M.B.A. program." The e-mail address is esam@ausa.net.

**Sid Bell** (B.A., 1946), writes from Ft. Plain, New York, "Retired, but again carving and casting wildlife jewelry for numerous stores and several national catalogs. Am house-bound–health a series of anticlines and synclines–back is still bad. I get around on two canes–can't walk–have had to give up hunting, and that hurt the worst. Wonder if any research has been done on the speeding up of time relative to the passing of years—at least an inverse proportion. The more we age, the quicker the years go by, at least up here north of the Mason/Clinton line."

**Walter E. Belt, Jr.** (B.S., 1943) is retired in Flatonia, Texas, and writes, "Virginia and I are well and happy." His e-mail address is webeltjr@fais.net.

**Earl H. Bescher** (B.S., 1942) is retired from Exxon and lives in Kingwood, Texas. He writes, "Since retiring from Humble/Exxon in 1981, I have done lots of travel–love cruises. Stay at home now due to wife's health problem. Otherwise, life is good." His e-mail address is earl@kingwoodcable.com.

**Don G. Bilbrey** (B.S., 1953, M.A., 1957) is retired from Chevron (Gulf Oil Corporation) and living in New Orleans, Louisiana, writes us, "My golf game has gone south–age has finally caught up with me, I guess. My handicap is up to seven and very few putts drop now. Daughter Karen gave birth to son, Taylor Martinsen, on December 1, 1998, in Seattle, Washington. I visited in March for a week."

**Sevin Bilir** (M.A., 1992) lives in Emeryville, California, has a present job of hydrogeologist analyst for Weiss Associates at Lawrence Livermore National Laboratory (LLNL) (work e-mail of sib@weiss.com and personal e-mail of sevinb@yahoo.com), and writes with the news, "I am now working on the investigation and characterization of soil, rocks, and ground water at Site 300 (Altamont Hills Explosives Center) for LLNL in Livermore, California. I am actually doing tasks that incorporate geology, hydrogeology, structural geology, innovative green technologies, etc. Yahoo! At last! Anyone have interesting related topics that LLNL might want to know about? Contact me. As for my outside work life, I am really enjoying living in the Bay Area. I am enjoying the quick access to snow, the heat of the Central Valley, migrating whales, the sierra hot springs, etc. Great news!..I recently passed the RG for California on the first try."

**Russell C. (Chris) Bingley** (B.A., 1962) is retired in Chico, California.

**William T. Biskamp** (B.A., 1954) is retired in Dallas, Texas, has an e-mail address of 7billbis@airmail.net, and writes us, "Very little change. Traveling and selling real estate with Mona. Have seven grandkids, and all our kids are doing fine."

**Peter Bittenbender** (M.A., 1991) is a geologist with the U.S. Bureau of Land Management in Douglas, Alaska, and resides in Juneau, Alaska. His e-mail address is pbittenb@ak.blm.gov. He writes, "All's well here. I continue to enjoy my job of mineral assessment on public land in southeast Alaska. My wife, Karen, and I have a daughter, Asha, almost two. She likes rocks."

*Field geology course in the summer of 1941. Pictured is Edward Baird. Photo provided by Edward R. Baird.*

**Jeffrey W. Black** (B.S., 1985, M.A., 1993) lives in Lakewood, Colorado, is a hydro-geologist with Hydro-Triad/V3 Colorado LLC, has an e-mail address of jblack@v3colorado.com, and writes, "This spring has been busy with singing in the chorus of Opera Colorado in productions of T*he Magic Flute, Macbeth,* and *Romeo et Juliette* in addition to normal work schedule. My work schedule in the near future will include trips to Central and South America."

**Fredrik S. Blackmar** (B.S., 1955) is a golf professional in Corpus Christi, Texas, and writes, "Lots of golf lessons. A good bunch of kids coming up. One on team at UT. Also, working with local gem and mineral club setting up a lapidary room, as well as field trips for members." E-mail address is fcblackmar@www.net.

**Asa (Lee) Blankenship** (B.A., 1950, M.A., 1952) is retired as Vice-President of NationsBank in Houston, Texas, and writes, "Not much news–retirement is dull–please call me at (713) 771-2936. Would like to visit with Texas-Exes in the Houston area."

**Harvey Blatt** (M.A., 1958) is an Adjunct Professor of Geology at the Institute of Earth Sciences at The Hebrew University of Jerusalem, Givat Ram, in Israel, and writes, "Still teaching one course a year at Hebrew University and starting work on third edition of *PETROLOGY* with Bob Tracy of VPISU."

**Robert H. Blodgett** (Ph.D., 1990) is an Associate Professor with the Department of Geology at Austin Community College in Austin, Texas, and writes, "This year's excitement was Earth Science Week. With the help of Francye Hutchins, an ACC student, we got the Governor to sign a proclamation and began construction of an automated monitoring well in the Edwards Aquifer. We hope to put the well on the Internet in the coming year."

**Jeffrey A. Blohm** (B.S., 1976), e-mail address Blohmsky@aol.com, resides in Tucson, Arizona, and is "Retiring from the United States Air Force after 22 years of service."

**Don I. Blunk** (B.A., 1970) is in El Paso, Texas, and writes, "I have been in private practice in psychiatry in El Paso for the past 20 years. I now have two sons currently attending The University of Texas at Austin."

**Dan Bodner** (M.A., 1985) is with Professional Consulting Group in San Francisco, California.

**Jennifer Boedeker** (B.S., 1996) lives in Katy, Texas.

**Lars Borg** (M.A., 1989, Ph.D., 1995) resides in Houston, Texas, is Senior Research Associate at the Institute of Meteoritics, University of New Mexico at Albuquerque, and writes, "Recently accepted a senior research associateship at the University of New Mexico. Will be building facilities to continue geochronology of Martian and lunar samples."

**Silverio Bosch** (B.S., 1974, M.A., 1975) is an independent petroleum geologist in Corpus Christi, Texas, and writes, "Prospecting in Wilcox yielded two discoveries this past year. Three-D surveys were redundant and just confirmed sub-surface ideas but much needed to market deals. Matthew (11), Eric (9), and Lisa keep things stirred up all the time."

**Andrew Bowen** (B.S., 1991) is in marketing at IXC Communications in Austin, Texas, and writes, "Completed my M.B.A. in May 1998 and made a career switch from a groundwater consultant to the telecommunications industry." E-mail address is a.bowen@mindspring.com.

**Southern Bower** (B.S., 1950) is in Luling, Texas, and reports, "No new news–still enjoying retirement."

**Don R. Boyd** (B.S., 1958) is President of Gulf Coast Exploration Company in Corpus Christi, Texas. He writes, "In May of 1998, I closed my downtown office and moved to a newly constructed office at my home. Still doing the same things as before–just with a new address and telephone number." Don is an Honorary Life Member of the Geology Foundation Advisory Council.

**Walter A. Boyd, Jr.** (B.S., 1953) is a retired chief reservoir geologist in Houston, Texas, and writes, "Still seeing the world." E-mail address is wildbill@p38.com.

**Walt V. Boyle** (B.S., 1954, M.A., 1955) is a consulting geologist in Houston, Texas, and reports, "1998 was a busy year for travel–New Mexico, Colorado, Nova Scotia, Greece, Turkey, and a cruise on the Aegean Sea. In 1999, we will travel to Russia. Vada Marie and I are really enjoying our travels and visits with old friends."

**Philip Braithwaite** (M.A., 1958) is retired from Mobil in Dallas, Texas, and writes, "I have been retired for just over a year and am really enjoying the new slower pace and more relaxed lifestyle. However, I am still trying to catch up with things I have put off for the last 20 years, so I am staying busy! Barbara and I plan to stay in Dallas for the foreseeable future." E-mail address is pxbraith@swbell.net.

**Steve A. Brasfield** (B.A., 1978) is a writer/creator in Los Angeles, California, and writes, "Written for shows such as *Bobby's World, All Dogs Go to Heaven,* and *Sabrina.* Now creating new shows for television."

**Betty Giese Breedlove** (B.S., 1954) resides in LaGrange, Texas.

**Bill Brenner** (B.S., 1958) is semi-retired with some real estate and investment interests in Atlanta, Georgia. He writes, "My wife and I are now spending one-half time in Atlanta and one-half time at our new home in northwest Montana (The Swan Valley)."

**Ben M. (Bud) Brigham** (B.S., 1983) is the C.E.O. at Brigham Exploration Company in Austin, Texas. He writes, "Anne delivered child #2, #3, and #4 on 11/28/98. Conner, Amanda, Mary Anne, and our 3-year old, Elizabeth, are doing well. Best wishes to all our friends." He may be e-mailed at bbrigham@bexp3d.com.

**Ken Brook** (B.S., 1967) is President of Desert Ventures, Inc. in Reno, Nevada, and writes, "Still waiting for price of metals to go up." E-mail is ken@desven.reno.nv.us.

**Gerald R. Brooks** (B.S., 1958) is Vice-President of Marlin Exploration, Inc. in Shreveport, Louisiana, resides in Bossier City, Louisiana, and tells us e-mail address is marlinexploration@msn.com.

**C. Douglas Brown** (B.S., 1984) is President of the BXP Company, L.L.C. in Dallas, Texas, and writes, "South Texas acquisition and development work is going very well. Our son Renner is two, and Ann and I are expecting our second son in May."

**Gilbert (Gib) Brown** (B.S., 1976) is a partner in H & L Operating Company in Amarillo, Texas.

**Larry Bruck** (B.S., 1968) is a Professional Development Manager with Keane, Inc. in Dunwoody, Georgia. He writes, "Practiced geology with Gulf Oil for one year. Got drafted in 1969 and entered Air Force–retired 27 years later as a full Colonel. Now working in the computer software consulting business. Ready to celebrate 31 years of marriage to one great lady. We've raised two very successful sons and now are proud grandparents of a two-year-old boy." He notifies us his e-mail address is lawrence_a_bruck@keane.com.

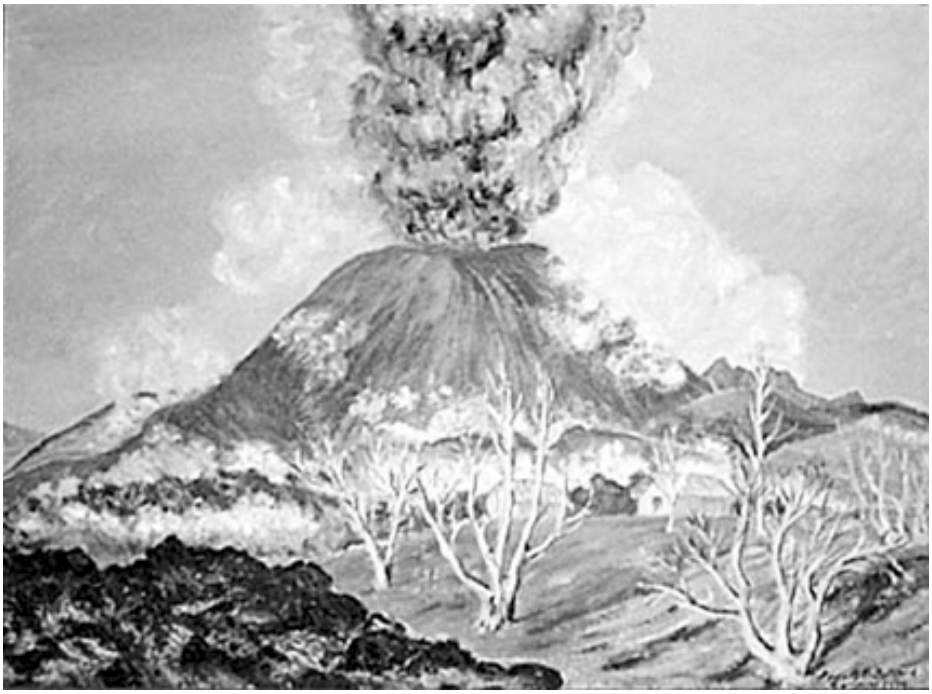
**Wallace E. Brunson** (B.S., 1942, M.A., 1954) is retired in Houston, Texas, and writes, "Betty and I tripped up to Whistler, B.C., Canada, in January 1999. But, why travel that far with daughter and son-in-law in Austin and a son and daughter-in-law (with grand kid) in Santa Fe, New Mexico."

**Charlotte Bryant** (B.S., 1989) is with the Botanical Research Institute of Texas in Fort Worth with an e-mail address of cbryant@brit.org.

**J. E. (Woody) Bryant** (B.S., 1943, M.A., 1948) is an independent geologist in Fredericksburg, Texas, and writes, "We really enjoyed the 1998 GCAGS convention held in Corpus. Saw a lot of old friends, including Lawrence Hoover, Fred and Frances Oliver, and a multitude of others–even a few Aggies."

**Leonard C. Bryant** (B.A., 1957) is a geologist in Helotes, Texas, and writes, "We still go to Branson, Missouri, a couple of times each year and enjoy the entertainment."

**Julius A. Buchanan** (B.S., 1941) writes from Tyler, Texas, "Still retired and in fair health. Virginia and children are doing fine.



*Painting of Paricutín Volcano, Mexico, by Mrs. Bess Mills Bullard. Photo provided by Thaïs Bullard.*

Paul, our son (B.S. in Geology, 1975), is at National Aeronautics and Space Administration this year. Our daughter, Ann, is with Aetna doing well. Would you believe I graduated from UT 58 years ago?"

**Thaïs Freda Bullard** (M.A., 1951) writes, "In conjunction with the initiation of the new Fred M. Bullard Fund for Geoscience Informatics, I have made another donation in both my father's and mother's honor to the Lyndon B. Johnson School of Public Affairs at The University of Texas at Austin. While Fred Bullard was conducting geologic research and teaching all over the world during his extensive career, Mrs. Bess Mills Bullard was with him, painting the scenery. This donation of some 30 art works by Bess Bullard, a collection of her oil paintings, water-color paintings, pastels, and drawings, also commemorates the invaluable aid Congressman Lyndon Johnson provided when Fred Bullard telephoned his Congressman in 1943 with some urgency, asking if Mr. Johnson could help obtain color film with which to document the birth and growth of a new volcano, which suddenly had blasted up out of a cornfield in Mexico. This was a geologic event not before witnessed in 'historic (with scientific-observation) times.' But since film had been requisitioned for the war effort in those years, it was not available for civilian purchase. Without Congressman Johnson's help, Fred Bullard would have been unable to document the development of Paricutín Volcano. Thanks to Lyndon Johnson, he was able to obtain 16-mm color film immediately and to record the geologic history of the volcano's nascence and subsequent activity, thus making a significant contribution to the science of volcanology. Paintings by Mrs. Bess Bullard of volcanoes of Mexico, produced on site during her husband's field-research expeditions in the 1940's and other works, have been received by the LBJ School in commemoration of Mr. Johnson's assistance to this unique scientific research opportunity.

Heartfelt thanks to those who have sent contributions to the Fred M. Bullard Fund for Geoscience Informatics to pioneer the new field of geology information science (Informatics). This Fund will support geology graduate-student study and research, complementing the Fred M. Bullard Professorship, established in 1977. The initial project is the processing of the Fred M. Bullard Papers, now archived with the Faculty Papers Collections at the libraries of The University of Texas at Austin. Out of this project, a history of the life and times of Fred Bullard (1924-1994) and the UT Geology Department can emerge. So please send in your memorabilia: stories, anecdotes, and comments about those days in Geology for inclusion in this collection. Contributions to the Fund are most welcome!

For more information, contact Graduate School of Library and Information Science, The University of Texas at Austin 78712, e-mail to gharmon@uts.cc.utexas.edu, and bullard@gslis.utexas.edu. See http://www.gslis.utexas.edu/~bullard/FMBfund1.html." Thaïs' address is 1801 Lavaca Street, #15-A, Austin, TX 7870l.

**Dan J. Bump** (B.S., 1985) resides in Lafayette, Colorado, is Director of Producer Services in Denver, Colorado, and writes, "New job with Enron Capital & Trade and new daughter, which makes two girls. (I know…I've got real problems in a few years!) Denver is awesome; hope to stay for a while. Howdy 1985 GeoDogs!" E-mail address is dbump@ect.enron.com.

**Ray A. Burke** (B.S., 1947) is partially retired as President of Seamark, Inc. in Dana Point, California, and writes, "As an independent, West Texas is still main area of drilling and production, but low oil prices are killing activity. Louisiana, with its lure of natural gas, still attracts drilling. However, a recent well Seamark participated in found oil-still good news." Ray is a former member of the Geology Foundation Advisory Council.

**Arthur B. Busbey** (B.S., 1974, M.A., 1977) and **Janet Busbey Nilsson** (B.S., 1977), e-mail busbey@gamma.is.tcu.edu, reside in Fort Worth, Texas. Art is an Associate Professor of Geology in the Department of Geology at Texas Christian University and Janet is a Science Chair at Rosemont Middle School and a science teacher. They write to let us know that eldest daughter, Sara, is now a freshman at Rice in Houston. Art will soon be moving to a half-time teaching, half-time administrative position as he sets up and manages new freshman science computer labs across several disciplines. Art has been appointed chair of a special committee at TCU responsible for academic computer and computer/telecommunications policy. Janet keeps busy with eighth grade science students and also as the Chair of the Science Department at Rosemont Middle School.

**Robert W. Bybee** (B.A., 1941) is retired at age 79$^1/_2$ in Houston, Texas, and writes, "Elizabeth and I are well and still able to travel some. I closed my downtown office this spring. Sorting through and disposing of a lot at home and office will keep me busy the rest of 1999. Regards to all!"

**Leon G. Byerley, Jr.** (B.S., 1952) is an independent geologist in Midland, Texas, and writes, "You know times are bad in the Permian Basin when your colleagues are marching on the capitol in Austin and contemplating suing Saudi Arabia for dumping oil in Texas. But, my office is still open."

**William M. Byrd** (B.S., 1956, M.A., 1958) is retired as geologist from Exxon Company, U.S.A., resides in Georgetown, Texas, and writes, "Enjoying my retirement in Sun City Georgetown." E-mail address is willbyrd@aol.com.

**Warren J. (Jack) Cage** (B.S., 1950) and **Susan Kiefner Cage** (B.A., 1950) are retired in Georgetown, Texas, and write, "Susan and I have recently moved to Sun City George-town and are looking forward to braving the demolition derby on I-35 to see the Horns play from time to time."

**Frank Cahoon** (B.S., 1957) is an independent oil operator in Midland, Texas, and writes, "Midland and West Texas have really slowed down with low oil prices. Paula and I participated in the 'Oil Workers March on

Austin' on January 18, 1999, with our grandchildren. It was a great civics lesson for them."

**Roger Q. Callaway** (B.S., 1977) of Matthews, North Carolina, writes us, "After 15 years of marriage and the production of three offsprings, we continue to wend our way down life's highway, caroming between eminent success and starvation, never quite achieving either. I wonder, if ontogeny recapitulates phylogeny, were there once roaming tribes of proto humans with the personalities of 4-year-old boys? It's a wonder our species survived, and since we did, it's no wonder other species did not. As usual, when I have been too lazy to send a note to the *Newsletter*, I am tickled to see that others were not. I was more than pleased to see that James Willrodt is still on earth. Howdy James! Bruce Kuyper has retired from Geology to be a sponge-head (programmer), somewhere in Montana. When I last heard, Mary Moran was working for a newspaper on the west slope of the Rockies. Somehow, I have been helping with due diligence studies for high purity limestone and dolomite quarries. Yes Virginia, there's not much limestone in the Carolina Piedmont. Well, I hope the 660 class of 1977 is all basking in prosperity."

**Amy Lee Campbell** (B.S., 1997) is a financial advisor at Morgan Stanley Dean Witter & Company in Austin, Texas, and writes, "Aside from a new career path, I've had some incredible holidays this year to Morocco, the United Kingdom, and Thailand." E-mail address is aleec@hotmail.com.

**Donald H. Campbell** (M.A., 1962) works at Campbell Petrographic Services, Inc. in Dodgeville, Wisconsin, and reports, "Petrography–what else is there? Continuing to work on cement, concrete, rocks, etc. Will publish second edition of book on same at Portland Cement Association, Skokie, Illinois." E-mail address is campbell@mhtc.net.

**Donald M. Campbell** (B.A., 1955), a retired geophysicist in New Market, Maryland, writes, "In addition to my working in sales for Fountainhead Builders, a builder of homes on Lake Linganore about six miles east of Frederick, Maryland, I am a substitute teacher at my granddaughter's grade school. So much for retirement. However, I enjoy it and will probably continue to do something as long as I am able. I do miss Texas, and we are considering a move to Myrtle Beach, South Carolina, sometime down the road."

**A. T. (Toby) Carleton** (B.S., 1951, M.A., 1952), a geologist and rancher in Midland, Texas, writes, "I divide my time between the oil business, ranching, and volunteer work. I find that it all pays about the same." Toby is a member of the Geology Foundation Advisory Council.

**Marvin T. Carlsen** (B.S., 1952) is retired and lives in Midland, Texas. He writes, "Thanks to a plastic surgeon, wife Mildred has finally healed, 13 months after her chest was opened for bypass surgery. Triple iodine fumes did the job. I am staying well with daily chores keeping me active. My well wishes to all exes and geological sciences teaching staff."

**Paul Carpenter** (B.S., 1986, M.A., 1990) lives in Sacramento, California, and is an Engineering Geologist with Department of Toxic Substances Control, e-mail address pcarpent@dtsc.ca.gov.

**Richard F. Carroll** (B.S., 1980) lives in The Woodlands, Texas, and states, "I am still a senior staff geologist with Mobil for the time being. With the Exxon/Mobil merger, who knows where I'll be when the *Newsletter* comes out. I'm still working the Texas Gulf Coast and have a couple of new discoveries for Mobil, the first new field onshore in about nine years. My wife, Robin, and my boys, Ian and Austin, are doing great." His e-mail address is Richard_F_Carroll@email.mobil.com.

**Dave Casey** (B.S., 1960) is semi-retired in Mandeville, Louisiana, and writes, "Dabbling around in expert witness work, couple of oil patch ideas, but mostly enjoying Lake Pontchartrain, sailing/fishing, and Florida panhandle beaches. It's a great life! Coffee pot is on, come by."

**Dwight E. Cassell** (B.S., 1955, M.A., 1958) is an independent geologist in Austin, Texas. He writes, "Low crude prices have just about closed the door on exploratory or development drilling. However, this slow down provides time to continue squirreling away prospects. Linda and I and some other UT exes had a great trip through France and Spain, followed by a cruise around the western end of Europe. Come see us!" E-mail address is declsc@flash.net.

**Edward C. Cazier** (M.A., 1984) is coordinator with the Trans-Alaska Pipeline System in Anchorage and writes, "Back in Alaska, after six great years in South America. I'm taking advantage of the downturn in the oil and gas business to learn some new skills–this time in the pipeline business. Room for alumni, always welcome to come up North to wet a line." E-mail address is cazierec@bp.com.

**Henry S. Chafetz** (Ph.D., 1970) resides in Houston, Texas, and holds the position of Professor at the University of Houston, where he has an e-mail address of HChafetz@uh.edu. News reported is, "Still doing business at the same address, 29 years at the Department of Geosciences at the University of Houston. Although interest in bacterial fossils sure has changed in the 15 years since Bob Folk and I published our first papers on this subject, it sure is a fun topic with all the commotion over the putative Martian fossils. Janet is busy as usual. She just signed a contract for her ninth book and has been chairing the Sociology Department again. We have to stay busy. Josh is into his junior year at Yale and is most likely headed for law school, so no retirement plans in the near future for us. As always, look forward to hearing from old classmates and especially seeing them at meetings."

**Steven Chang** (B.S., 1987) lives in Mandeville, Louisiana, and is Operations Manager of the southeastern United States at Western Geophysical in New Orleans, Louisiana. E-mail address is steven.chang@westgeo.com.

**Thomas S. Chapin** (M.A., 1981) is a consultant in Reno, Nevada, and writes, "Currently working in Mexico." E-mail address is tschapin@worldnet.att.net.

**Tom H. Chestnut** (B.S., 1959) is Sales Manager with Texas Industries in Dallas, Texas, and writes, "Retire? No way, having too much fun."

**C. A. Chimene** (B.S., 1950), e-mail address cchimene@juno.com, is President of The Laahnz Corporation in Houston, Texas, and writes, "First novel published by www.1stBooks.com, *Hot Nights in Houston*."

**Michael Clark** (B.A., 1989) lives in Tomball, Texas, with an e-mail address of mjc@compuserve.com, is a GIS Analyst in Austin, Texas, and writes, "Ten years after graduation, I have my first house."

**James L. Claughton** (B.S., 1971) is an Exploration Manager in Corpus Christi, Texas, with an e-mail address of clausole@aol.com.

**Kelton Cloud** (B.S., 1973) is a geologist/partner with Harbor Operating, L.L.C. in Granbury, Texas, and writes, "I am still staying relatively busy consulting in an extremely slow-paced industry (currently). Hopefully, OPEC will get their act together soon. (I think I've said this before!)" E-mail address at home is kcloud@itexas.net and at work is harbor@itexas.net.

**D. B. Clutterbuck** (M.A., 1958) a consultant in Houston, Texas, writes, "Officially retired on March 1, 1999, but have been retained by the Company as a consultant. Looking forward to more traveling, grandchildren, and sniffing the flowers."

**Robert Cobb** (B.S., 1977, M.A., 1980) lives in Carrollton, Texas, is a consulting geologist with Pitney Bowes Data Management in Dallas, Texas, and writes, "Been taking care of Mobil's G & G data going on three years now. My wife, Mele Cobb, and son, Edwin Cobb (two years old), are doing fine."

**Joel Coffman** (B.S., 1984) lives in Cameron Park, California, is a Technical Coordinator for Pinnacle/Emcon/IT Group, has an e-mail address of jcoyote@innercite.com, and writes with the news, "1998 and first half of 1999 have brought many changes. Single again and loving it! Our small company here in Cameron Park has been swallowed (purchased) by the IT Group, so looks like we will be forced back into a corporate world of 'Dilbert' proportions. Have really had a lot of fun. Was on the road with the Rolling Stones for a while this year and have become close friends with many of the Sacramento Kings Basketball Team, a great bunch of guys. They even convinced me to get my first tattoo! My

good buddy, Kyle Cockerham (also of class of 1983), just moved back to NoCal from Austin with his growing family, so that will be fun! Look forward to trips to Texas and New Mexico this summer where I will be doing some Guadalupe Peak traverses, camping, and reunions. Hope to hear from some of you summer of 1983 660 field trip folks or other classmates!"

**Julianne** (M.A., 1988) and **Thomas Cogswell** (B.S., 1984, M.A., 1991) write us that Julie is currently an Exploration Geologist with Exxon Ventures, CIS, working in the South Caspian Basin of Azerbaijan. She has been with Exxon 11 years. Tom is currently a Senior Petroleum Geologist with Exxon Exploration Co., working in the Diana Basin, a deep water Gulf of Mexico development. He joined Exxon in late 1997 after eight years at Mitchell Energy.

**H. Grady Collier, Jr.** (B.S., 1949) is a geological consultant in New Orleans, Louisiana, and writes, "Do some consulting but practically retired now. If in New Orleans, call at 581-7602. Best wishes to all with 'orange blood'."

**Chuck Collins** (B.S., 1976) writes, "Another year has come and gone. Let's see what this one brings. For now it looks like a recovery is on the way in the domestic oil patch, which is a welcome change for our industry. I'm a Geophysical Manager with Manti Operating Co. in Corpus Christi, Texas, and was active in the overthrust of southern Val Verde Basin, the Gulf Coast onshore Tertiary trend of Louisiana and Texas and the Niagaran Reef trend in southern Ontario, Canada, to name a few of our hot spots. Drop me an e-mail at chuck@mantires.com."

**James (Jim) W. Collins** (B.S., 1956) is President of Collins Resources, Inc., in Corpus Christi, Texas, and informs us that he is "Still in the oil business–what's left of it."

**Steve Compton** (B.S., 1981) is Vice-President of Exploration with Tri-C Resources in Houston, Texas, and writes, "Love of geology must be a latent gene. Daughter, Katharine (8), likes every rock she finds and wants to keep it 'forever.' Son, Campbell (5), recites geologic time scale after playing some educational software game. I now find myself saying 'camels often sit carefully' just to keep up." E-mail address is scompton@tricresources.com.

**David Cook** (B.S., 1982) from Honolulu, Hawaii, whose present job is Hydrologist/ Pacific Air Forces, with an e-mail address of dave@tikis.net, writes, "Would like to hear from any of my bone brothers or sisters from 660 summer of 1982."

**Mary Beth Cooper** (B.A., 1967, M.A., 1969) is a Registered Nurse with the Denver Health Medical Center in Denver, Colorado, and writes, "I'm currently working as a psychiatric nurse on an adolescent unit at the local county hospital. It's quite a change from geology!"

**Casey C. Cornett** (B.S., 1988), is a consultant with Casey Data Management and **Susan Schwarz Cornett** (B.S., 1986) is a homemaker. They reside in Houston, Texas, and write, "We've finished remodeling the house, are both playing golf, and are attempting to survive the oil bust. We've ridden a full cycle since 1986 now and are hoping this one's shorter on the downside. Marshall (6) and Stuart (3) are doing great in school. Come visit!" Their e-mail address is casey.cornett@pgs.com.

**Frank G. Cornish** (M.A., 1975) is a geologist with Yuma Exploration and Production Company, Inc. in Corpus Christi, Texas, and states, "S. W. Speaks Field continues development, with over 20 wells and more to drill. Still having reunion at Stanton's house every fall. Continuing to return to Britain annually. Finally getting 3-D experience on SMT." E-mail address is fcornish@interconnect.net.

**Jerry Covington** (B.S., 1943) is self-employed in Midland, Texas, and writes "Still in the game."

**Raymond W. Cozby, III** (B.A., 1983), e-mail rcozby@ballistic.com, is an attorney in Tyler, Texas, and "Proudly announces the opening of his law firm, Raymond W. Cozby III, P.L.L.C., specializing in workers' compensation defense, estate planning and probate, and real estate law."

**Fredrick E. Crawford** (B.S., 1983) is manager in the Surveying and Mapping Department of the Lower Colorado River Authority in Austin and writes, "Enjoying life in Austin, Texas!" E-mail address is Fred.Crawford@lcra.org.

**Bob Crone** (B.S., 1998) writes, "I got a job and a different career also. Retec called and offered me a job as a junior hydrologist. The company does soil and water remediation on petroleum, rail, manufacturing, industrial, and government facilities all over the country. The Austin office handles mainly Texas, Louisiana, Arkansas, Oklahoma, and Kansas. Lots of travel and long hours. But I guess I am used to that. I think they were impressed with the fact that I could work full time and go to school also. Retec has about 400 employees nationwide and merged with five other companies and is now Thermoretec, which is a subsidiary of Thermoelectron. Thermoretec has a Web site. Together with the other five companies, Thermoretec covers all aspects of the environmental field. I am excited."

**Timothy E. Crump** (B.S., 1991) is Project Manager at T/GE Resources in Houston, Texas, and resides in Pearland, Texas. His

*1976 field camp in Palo Duro Canyon. "Caesar purviews his realm and all is well." Dr. Muehlberger (center, standing, with hat) and class. Photo provided by Chuck Collins.*

e-mail address is tgeres@aol.com. He writes to let us know, "Angela and I are expecting our first child in August 1999."

**Steve Cumella** (B.S., 1977, M.A., 1981) lives in Evergreen, Colorado, and is a geologist with BTA Oil Producers in Denver, Colorado.

**Hugh W. Curfman** (B.A., 1948) is retired in Lafayette, Louisiana, and writes, "Still keeping in touch, but not really hard at it."

**Harris P. (Koop) Darcy** (B.S., 1951) is an independent geologist in Houston, Texas, and informs us, "Write to ICR, P.O. Box 2667, El Cajon, California 92021, or call 1-800-628-7640 and order their catalog and VCR tapes on 'Grand Canyon' and 'Mt. St. Helen's.' They are great. Also, write to Creation Evidences Museum, P.O. Box 309, Glen Rose, Texas 76043-0309, and order their catalog or visit them. You will be amazed."

**Ernest Julius Dasch** (M.A., 1960) is Manager of National Aeronautics and Space Administration Space/ Grant in Washington, D. C., e-mail address jdasch@mail.hq.nasa.gov, and writes us, "I continue with the Space Grant University Program (modeled after Land Grant and Sea Grant University Programs) and the newer Experimental Program to Stimulate Competitive Research (EPSCoR). Occasional work on moon rocks and meteorites (got to spend a month in Antarctica collecting meteorites...our group of six found about 850, including the tenth (then) known lunar meteorite). Glad to meet and chat (and occasionally exercise) with Clark Wilson, who is visiting Headquarters from the UT Department of Geological Sciences. Manage, once or twice a year, at least, to touch base with Dan Bridges, Dick Bennett, Bill Wilbert, and Dave Amsbury."

**Rick J. Dauzat** (B.S., 1980) is Manager of Strategic Planning at Exxon Exploration Company and resides in Montgomery, Texas.

**George H. Davis** (M.A., 1966) has been named Regents Professor at The University of Arizona in Tucson, Arizona, in 1998.

**Linda Lee Davis** (Ph.D., 1993) is a post-doctoral Research Associate in Richland, Washington, and writes, "Doing fun science–learning much, missing 'real' rocks, missing WOTTs!" E-mail address is linda.davis@pnl.gov.

**David DeBalko** (M.A., 1991), resides in Houston, Texas, has e-mail address david@debalko.net, and writes, "After working seven years as a geophysicist with ARCO/Vastar, I am leaving the oil and gas industry. I decided to change careers after receiving my M.B.A. in finance and strategic management from Rice University in December 1998. I now work for Pricewaterhouse Coopers as a senior management consultant in the Financial Advisory Services Group. My work focuses on dispute analysis and investigation of companies in financial trouble."

**Carlos Deere** (B.S., 1950) is retired in Bellville and writes from Texas, "I'm busier than a cat covering up his next meal. My first screenplay last year bit the dust, but my second one, *Drilling for Love*, has all the possibilities of being a gusher. It also could be a dry hole, but that's not in the game plans right now."

**Frederik E. Dekker** (M.A., 1966) lives in Katy, Texas, is Vice-President of Wessex International in Houston, Texas, and writes, "Left Unocal Corporation after 32 years of international work. Have formed Wessex International to form and sell/promote deals in the international upstream oil and gas industry. Currently working on projects in the United Kingdom and North Africa." E-mail address is fdekker@wt.net.

**William D. Demis** (M.A., 1983) lives in Midland, Texas, is a senior geologist with Marathon Oil Company, has an e-mail address of billdemis@AOL.com, and writes, "Everything is going fine in Midland. Mary (M.A., 1984) has done some consulting but now is focused on yoga. Son John (10) and daughter Eleanor (8) are busy in all sorts of kid stuff (soccer, dance, school, and piano), and they keep us busy."

**John Lane Denson, III** (B.A., 1949, M.A., 1950) of Nashville, Tennessee, with an e-mail address of john.l.denson@vanderbilt.edu, writes with the news, "Publishing, writing, and editing COVENANT, an occasional paper/commentary on the church. Playing trumpet with a jazz band. Priest associate at St. Augustine Chapel (Episcopal ministry at Vanderbilt University). Frequently having to explain what burnt orange is to University of Tennessee alumni."

**Mark Kevin Denson** (B.S., 1997) resides in Austin, Texas, and tells us, "I am working as a geologist with HBC's Environmental Services in Austin and camping, relaxing, etc. when I am able to."

**Casey Dhevan** (Attended fall 1994 to fall 1996) lives in Houston, Texas, and is now with Western Geophysical.

**Charles W. Dietz** (B.A., 1954) is a retired consultant in Rockport, Texas, and writes, "Receiving the *Newsletter* makes my day."

**Jane (Mrs. L. L.) Ormond Dinkins** (B.S., 1938) retired in Houston, Texas, writes, "Still have the Chappell Hill Ranch and Red Angus herd."

**Laura Martin Dobson** (M.A., 1990) an Adjunct Professor in Cedar Falls, Iowa, writes, "Enjoying teaching Physical Geology and Environmental Geology part-time at the University of Northern Iowa. Our third child, Courtney Paige, was born November 2, 1998." E-mail address is ldobson@cfu.net.

**Jennifer (Kraft)** (M.A., 1984) and **Gary Donnan** (B.S., 1984) live in Houston, Texas, where Gary is a partner at ERM Southwest, Inc. They report that they had baby number three on April 15, 1998 (a tax baby). Rob is joining his brother Will (8), and sister, Emily (5), and Gary is busy coaching all the kids' sports, and they are all busy racing around watching all these events.

**George Donnelly, Jr.** (B.S., 1940) lives in Midland, Texas, and writes, "Still 'practicing' geology in West Texas." George is a member of the Geology Foundation Advisory Council.

**F. L. (Larry) Doyle** (B.S., 1950) works for HydroGeology International in San Antonio, Texas, and writes, "Giovanna and I are still stateside, but ready to return to our 'natural habitat' when we get the chance. Meanwhile, I consult in groundwater and environmental. When time permits, I work on the Uvalde gravel."

**Robert E. Doyle** (B.S., 1955) is President of American Energy in Houston, Texas, and writes, "We are still very busy in Russia where we are involved in dual lateral drilling programs and well workovers. Udmurtia and West Siberia had about 50 percent more snow than average, which has been offset by the political heat (Kosovo)."

**Ralph C. Duchin** (M.A., 1955) is an independent geologist in Tucson, Arizona, and writes, "Everything very much the same; approaching nine years in Tucson."

**David E. Dunn** (Ph.D., 1964) lives in Richardson, Texas, is retired, is a part-time Lecturer at The University of Texas at Dallas, and writes, "Being a 30-percent faculty member, a 10-percent Geological Society of America officer, and a 60-percent golfer is suiting me just fine! I recommend it. Hope to see many of you in Toronto."

**William R. Dupré** (B.S., 1968, M.A., 1970) is an Associate Professor in the Department of Geosciences at the University of Houston with an e-mail address of wdupre@uh.edu, and writes, "Our oldest son is a senior at UT this year, and his younger brother is a sophomore. Both are Plan II (government majors), however, we did convince them to take at least one geology course. How time flies."

**Bobby G. DuPree** (B.S., 1954), e-mail address granbob@1cc.net, writes, "Lerla and I enjoying retirement here in Huntsville, Texas. Centrally located to three sons and 16 (sixteen!) grandchildren. Plenty of opportunities to spread the 'Good News.' Found a great church here and prison ministry galore…deeply involved in both."

**Shirley Dutton** (M.A., 1977, Ph.D., 1986) lives in Austin, Texas, with an e-mail address of Shirley.Dutton@beg.utexas.edu. She is a Senior Research Scientist at the Bureau of Economic Geology.

**Steve Dworkin** (Ph.D., 1991) lives in China Springs, Texas, is a Professor of Geology at the Department of Geology at Baylor University in Waco, Texas, with an e-mail address of steve_dworkin@baylor.edu, and writes, "Having taught here at Baylor for

six years, I now offer the following sage advice to many of my soft-rock students. If you are incompetent in the field, lack a fundamental understanding of stratigraphy and sedimentology, and are incapable of creative and intuitive thought processes, do not despair. Become an isotope geochemist!"

**Connie Mayes (Mrs. Byron F.) Dyer** (B.A., 1958) reports from Houston, Texas, "We finally have an empty nest after 38 years. Our youngest just finished first year at SMU. Our oldest son and wife are very tired parents of 2-year-old triplets, and our daughter and her husband are expecting their third girl in November. They're all in Houston, so we are truly blessed."

**Fred A. Ealand** (B.S., 1948) lives in Houston, Texas, and writes, "Thirteen years into retirement, and life is looking better all the time! One grandson graduating from Vanderbilt–eight more to go! Oil was up $.84 (3/10/99) to $14.69/barrel. Hope the trend continues to help the industry."

**John Ebach** (B.S., 1982) resides in Kingwood, Texas, is a Senior Engineering Application Support with Amerada Hess in Houston, Texas, e-mail address jebach@hess.com reports, "Still working at Amerada Hess; 16th year with the company. Now working with the Exploration and Production personnel at their PC desktop level. Our second daughter is completing her second year at UT Austin's Business School. I really do feel old, and I thought I was old when I was a student."

**Ruben Ellert** (B.S., 1950) is a geophysicist in Corpus Christi, Texas, retired from Coastal Oil & Gas, and writes, "Still doing some consulting work. Enjoying retirement and good health."

**Joe Elo, Jr.** (B.S., 1956) writes from Fort Worth, Texas, that he is a "Fully retired Grandpa."

**Al W. Erxleben** (M.A., 1974) is a consultant with Exploration/Exploitation Consulting in Spring, Texas, and writes, "Left Apache in the fall of 1998. Having fun ranching and consulting. Son, Jason, graduates from Texas Tech May 15, 1999,—will live in Dallas. Devin (14) nearly an Eagle–Scout. Travis (10) doing well in scouting and school. Wife, Charlotte, stays busy with scouting, family life, and ranch activities. All are doing very well." May be e-mailed at Aerxleben@aol.com.

**Rojelio P. Espinosa** (B.S., 1985) is a Senior Explorationist in San Antonio, Texas, and states, "Son, Jonathan Wagner Espinosa, born 8/26/98." E-mail address is rpe95@aol.com.

**William (Bill) J. Evans** (B.S., 1950) lives in Houston, Texas, and writes, "Enjoying retirement. Saw Tommy Burke recently. Saw Stan Pendus recently. Traveling plenty. Occasionally cruising. Enjoy tours."

**Rizer Everett** (B.A., 1937, B.S., 1937) is retired in Austin, Texas. He writes, "Hildegard and I have enjoyed visits, phone calls, and e-mails at our cottage in the Englewood Estates retirement facility. Our phone number is 512-899-0430. Give us a call when you make your next trip to Austin. We now have four great-granddaughters." His e-mail address is rizerc@swbell.net.

**Thomas E. Fanning** (B.S., 1956) is a retired Vice President of Exploration at Marathon Oil Company. He resides in Austin, Texas, and writes, "Involved in local political party efforts and doing a bit of consulting this year. Golf handicap remains unimproved." Tom is outgoing Chairman of the Geology Foundation Advisory Council.

**Irma Morgan Feibelman** (B.S., 1959) is retired in Canyon Lake, Texas, and writes, "Jim and I continue to enjoy Canyon Lake and the surrounding areas." E-mail address is jimirma@gvtc.com.

**Peter B. Fisher** (B.S., 1990) is with Rule 8 Permitting at the Railroad Commission of Texas in Austin, Texas. E-mail address is peter.fisher@rrc.state.tx.us.

**William M. Fitchen** (M.A., 1992, Ph.D., 1997) is Senior Research Geologist with Exxon Production Research Co. in Houston, Texas, and writes, "Greetings to all friends and acquaintances! Martha, Sebastian, and I are doing well, looking forward to moving into our new house in The Woodlands north of Houston. Still managing to work in the Permian Basin and hoping to see some good projects there by UT faculty and grad students." E-mail address is Fitchens@aol.com.

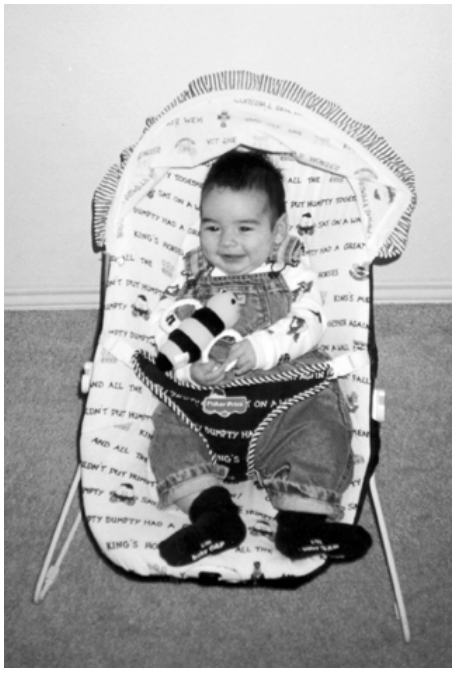
**Walter M. Fitzgerald, Jr.** (B.S., 1953) is retired in Lufkin, Texas, and writes, "Enjoying retirement, golf, and squirrel hunting in season. Root for the Horns on every occasion–will be 80 years old on 11/10/99."

**Ted Flanigan** (M.A., 1980) lives in Carson City, Nevada, and writes, "Greetings from northern Nevada." E-mail address is flanigan@intercomm.com.

**Jose A. Flores, Jr.** (B.S. 1990) resides in Rosenberg, Texas, and is a Project Manager and geologist with BNC Services in Houston, Texas. E-mail address is tflores@bncenu.com, and writes, "Enjoying family life with a four-year-old boy and a one-year-old girl. Work is great and hectic at times, but enjoying it too!"

**Charles M. Forney** (B.S., 1947) is a geologist with Forney & Company and writes, "Still active in Corpus Christi, Texas, area doing regional mapping in the Frio and Vicksburg (deeper zones). Finding some nice gas reserves in the Vicksburg and hoping for an increase in prices. Regards to all buddies before and after the war who took ten years to graduate."

**Hewitt B. Fox** (B.A., 1947, B.S., 1948, M.A., 1948) is the CEO/Owner of Hewitt B. Fox, Inc. in Corpus Christi, Texas, and writes, "We have been riding out the latest dip in petroleum prices and getting some prospects in South Texas, Nevada, and Utah lined up for the next upswing (we hope). It's been 51 busy years since I left UT and looking forward to more."



*Future Longhorn geologist Jonathan Wagner Espinosa. Photo provided by Rojelio P. Espinosa.*

**Curtis C. Franks** (B.S., 1950) is retired in Fair Oaks Ranch, Texas, and writes, "Retirement sure keeps you busy. Best wishes to all."

**William D. (Dick) Frazell** (M.A., 1935) is retired in Lafayette, Louisiana, and writes, "Still looking for oil in a small way."

**Annabelle Bannahan Friddle** (B.A., 1945, M.A., 1950) resides in Aztec, New Mexico, and writes, "I am active in serving on the boards of the San Juan College Foundation and the Theater Ensemble Arts, Inc.–both in Farmington, New Mexico. Keeps me busy. I always enjoy the *Newsletter*."

**Tatiana Frierson** (B.S., 1985) resides in Houston, Texas, is North American Recruiting Operations Director for Perot Systems Corporation in Dallas, Texas, and writes, "Still at Perot…which finally went public on February 2, 1999, on the New York Stock Exchange. Been waiting for this for nine years now! For the old Geodogs of the 1985 660 field camp–please do look me up–I'm in Dallas now. E-mail address is Tatiana.Frierson@PS.net."

**Nancy Null Funderburk** (B.S., 1979) is exploration consultant with Quintana Minerals in Houston, Texas.

**James B. Furrh, Jr.** (B.A., 1947, B.S., 1950) is the owner of James B. Furrh, Jr., Inc. and

the co-owner of Energy Drilling Company located in Jackson, Mississippi. He writes, "Active in East Texas, Louisiana, Mississippi, and Alabama. Recently made a wildcat oil discovery in Wilkinson County, Mississippi. We need $20.00 oil to stay alive. My wife and I have three sons and four grandchildren."

**Thurman Geddie** (B.S., 1945), e-mail TGPG@aol.com, lives in Austin, Texas, and states, "Still investing in a few drilling deals even though the price of crude oil is cheaper than water."

**Clem George** (B.A., 1947, M.A., 1948) is self-employed in Midland, Texas, and writes, "I am at the same office for the last 24 years. Not drilling. Betty and I went to Scotland in 1998 with Texas Ex's. Son, Kenneth, won a seat in the Texas Legislature in 1998."

**Steve Germiat** (M.A., 1988) is a Senior Hydrogeologist, e-mail address sjg@hartcrowser.com, and writes, "Now in my 11th year with Hart Crowser in Seattle, Washington (consulting, mostly environmental and water resources). I continue to work predominantly within the glacial terrain of Puget Sound, rarely encountering bedrock. Also managing risk assessment/cleanup work for the Navy in lovely Barrow, Alaska, and getting acquainted with permafrost hydrology, whale slaughter, and midnight softball. Wife Kay, daughters Hannah (6), and Emily (3), and I are doing well. Yes, we have earthquake insurance, for what it's worth."

**Fred M. Gibson** (B.A., 1951) of Austin, Texas, is "Still semi-retired and doing statistical work for the I.R.S."

**Tracy Baker Gibson** (B.S., 1986) lives in Conroe, Texas, is Project Manager, Environmental Affairs, Louisiana-Pacific, and reports to us, "Well this is my second year at L-P, and I am still enjoying myself. Even though I am not doing any geology, the job is challenging and exciting. I am learning something new about environmental compliance almost every day. Rick and I are expecting number two son in April and are very excited about that. We are especially looking forward to not sleeping for a few months! If any of the old gang is ever in the Houston, Texas, area, look me up, or you can e-mail me at Tracy.Gibson@LPCorp.com."

**Patricia Bauer Ging** (B.S., 1991, M.A., 1995) lives in San Marcos, Texas.

**Paul Giraudin** (B.S., 1948) is "Retired, but plenty busy, in Corpus Christi, Texas."

**Stephen L. Glahn** (B.S., 1980) is a geologist with Glahn Resources, Inc. in Arlington, Texas, and writes, "I'm still working the Eastern Shelf and still waiting for my set-aside government checks for not drilling more wells. My family is doing fine."

**Georgette Covo Browder Goble (Mrs. John E.)** (B.A., 1944) resides in Waco, Texas, and writes, "I'm still doing a lot of community volunteer service, including extensive research and archival work for my church (First United Methodist), which will be 150 years old as a congregation in 2000. My husband and I are looking forward to a trip to Italy in May. The *Newsletter* was excellent. I particularly enjoyed reading about new developments in the field."

*Field geology course in the summer of 1941. Pictured is Charles Gaulke. Photo provided by Edward R. Baird.*

**W. Leonard Goode** (B.S., 1953) is a consulting geologist in Midland, Texas.

**Brian S. Goodman** (B.S., 1980) of Helena, Montana, is a Senior Hydrogeologist with Tetra Tech EM, Inc., e-mail goodmab@ttemi.com, and writes to us, "Enjoying life in southwest Montana. Keeping busy with groundwater remediation and abandoned mine reclamation projects and my two daughters. Hope to travel to northern Europe this summer. I would enjoying hearing from all old (and getting older) UT buds, feel free to stop in and visit."

**James E. (Jim) Gordon** (M.A., 1951) is a geologist in Victoria, Texas.

**Mark B. Gordon** (Ph.D., 1990) lives in Houston, Texas, has an e-mail address of mgordon@gxt.com, and writes, "I married Ilona Cecilia Pall last June at the Rice Chapel in Houston. We have traveled to Romania twice in the past year to visit her family. We have also traveled around the United States for her to meet my family. Workwise, I continue at GX Technology doing prestack depth migration service work. Business hasn't been as good as it was in the past, but while trying to generate some new business, I have had a chance to do some interesting and fun research."

**Ronald L. Graner** (B.A., 1958) retired from the U.S. Department of Agriculture Soil Conservation Service in April 1994, lives in Brentwood, Tennessee, e-mail address rgraner@BellSouth.net, and writes us, "I have enjoyed traveling, golf, snow skiing, gardening, and working around the house since my retirement five years ago. My wife is now retired from the American Airlines system. My son and his wife live in Madison, Alabama, and have a computer business and CPA business. They have given us two beautiful grandchildren, a boy (7) and a girl (4), that we enjoy very much. Our daughter lives in Nashville, Tennessee, and works in the music business."

**Volker C. Grasso** (B.S., 1949) is retired in Oklahoma City, Oklahoma, and reports, "My wife, Cleo, died very suddenly of a heart attack on July 8, 1998. The daughters and their families here are and were the only thing that made it bearable."

**Amy Gray** (B.S., 1995) lives in Los Gatos, California, with an e-mail address of amyxgray@adobe.com, and is employed as a Quality Engineer with Adobe Systems, Inc. in San Jose, California.

**Robert W. Grayson** (B.S., 1948) is retired in Austin, Texas, and writes, "Looking forward to reunion of 1947-1948 classes at Corpus Christi in 2000." E-mail address is billibob@juno.com.

**Charles R. (Dick) Grice** (B.S., 1946) is retired in Midland, Texas. He writes, "Ann and my doctors keep me going. I spend some of my time being a docent for the Permian Basin Petroleum Museum and the Heritage Museum of the Confederate Air Force. Taking those young children through these museums is not work, it's fun. I enjoy every minute. I say to my fellow retired geologists here in Midland: It's your museum. We need you."

*Field geology course in the summer of 1941. Pictured is James Halbouty. Photo provided by Edward R. Baird.*

**Robbie Rice Gries** (M.A., 1970) from Lakewood, Colorado, is President and CEO of Priority Oil and Gas LLC in Denver. She reports, "Continue to explore for natural gas in Ireland, looking for partners. Other projects in Kansas and south Colorado keep me busy!" Robbie is a member of the Geology Foundation Advisory Council. Her e-mail address is RRGRIES@aol.com.

**Ariel Dale Griffin** (B.S., 1957) is a geophysicist in Houston, Texas, and writes, "1957 to December 22, 1976-stroke-disabled-1999."

**John C. Griffiths** (B.S., 1975) is President of Calvin Resources, Inc. in Houston, Texas, e-mail address is jgriffi630@aol.com, and writes, "It is always great to see friends from UT and to do business with them. Ray Pilcher and I are currently working on a project together. It is located in the Upper Texas Gulf Coast and has great potential."

**Furman A. Grimm** (B.S., 1947) is retired in Clifton, Texas, and writes, "Travel and golf take up much of my time. We enjoy frequent visits with our son, Mike, a UT-ex who heads up Rising Star Energy in Dallas. I admire the young people who are enduring the current conditions in our industry. Thanks for the *Newsletter*."

**Charles G. Groat** (Ph.D., 1970) is with the U.S. Geological Survey in Reston, Virginia, and writes, "Became Director at U.S.G.S. on November 6, 1998." Chip is a member of the Geology Foundation Advisory Council.

**Roy H. Guess** (B.A., 1939, M.A., 1940), e-mail address rhguess@aol.com, is a consulting geologist in Casper, Wyoming, and writes, "I have been directly involved in the development of the Madden Deep Field in Wyoming, producing to below 25,000 feet, representing primarily the landowners and royalty owners. At 81 years of age, it should be way past retirement age, but expert witness work is almost as much fun as drilling a new discovery well. Get ready for Y2K!!!"

**William R. (Bill) Gumert** (M.A., 1968) is Chief Geophysicist with Carson Services, Inc. in Perkasie, Pennsylvania, and writes, "Resolution for aerogravity surveys improved to 0.5 milligal, short wave length anomalies. GPS is great but also have major improvements with the gravity meter. Doing more prospect resolution models and detailed geology." E-mail address is wgumert@netcarrier.com.

**Bill F. Halepeska** (B.S., 1952) is a consultant in geology/petroleum engineering in Midland, Texas. He writes, "Now in the 18th year as consultant and enjoying both freedom and variety. Health still good in spite of bouts with heart problem and cancer. I credit balance of conventional with alternative measures. Lapidary hobby, gardening, and meditation are good stress therapy. Wife (Frances) and I plan more R.V. travel and visits with grandchildren."

**Henry Hamman** (B.S., 1960) lives in Houston, Texas, and writes, "My son, Russell, is a second-semester graduate student at UT Austin Geological Sciences. I am still working as an independent in Texas." E-mail address is hrh0715@aol.com.

**Marc Harder** (B.S., 1983) is a hydrogeologist with General Physics Corporation in Aiken, South Carolina, with e-mail address of mharder627@aol.com, and writes, "Have worked in the environmental consulting industry for the last ten years. Received M.S. degree in geology from the University of South Carolina in December 1988."

**J. V. (Jim) Hardwick** (B.S., 1940) is retired in Midland, Texas, and writes, "Just another worn out rockhound."

**Robert W. Hare** (B.S., 1979) is a geologist for R. F. Hare in Fort Worth, Texas.

**Louis H. Haring, Jr.** (B.S., 1938) is President of Haring Energy Company in San Antonio, Texas, and writes, "Participate in a few drilling deals annually, travel a lot, having seen all 50 state capitols, and enjoy my three grandchildren."

**Wiley B. Harle** (B.S., 1950) is retired in Houston, Texas, and writes, "It's hard to believe that it has been almost 50 years since I graduated."

**Russell Harmon** (B.A., 1969) resides with his wife, Karen, in Raleigh, North Carolina, and write, "Russell is a Senior Program Manager for Terrestrial Sciences at the Army Research Office, and Karen is a hydrogeologist with the State of North Carolina. We are enjoying life in the Piedmont region of North Carolina." Their e-mail address is harmon@aro_emh1.army.mil.

**Erik Harris** (B.S., 1989) and **Monica Harris** (B.A., 1990) reside in Austin, Texas. Erik is an Engineer Associate with the City of Austin, and Monica is a Program Specialist with the Texas Natural Resource Conservation Commission. They write, "Daughter, Ingrid, is growing like a weed and is learning rock names. Limestone is her favorite."

**Yemia Turnage Hashimoto** (B.S., 1995) is a staff hydrologist with Geosyntec Consultants in Walnut Creek, California, and writes, "Received my Master's in hydrology from University of Arizona in June 1998. Moved to the Bay Area in July and felt my first 'small' earthquake in August."

**Hugh Hay-Roe** (Ph.D., 1958) lives in Kingwood, Texas, is Senior Vice-President of BPZ & Associates, Inc. in Houston, Texas, e-mail address is hhr@hal_pc.org, and writes, "Yikes! Last year marked 40 years since my final graduation from UT. Still working as a consultant in international exploration and production (oil and gas), and waiting for global production to peak on the 'Hubbert Curve' (around 2008?)."

**Nikolas A. Hazel** (B.A., 1993) writes us from Fountain Hills, Arizona, "My wife and I have recently moved to Arizona, where I work as a jeweler and gemologist. I no longer work as a geologist, but I use my education extensively with gemology and enjoy rock hunting when I go hiking."

**Grant Heiken** (M.A., 1966) is on the research staff at Los Alamos National Laboratory in Los Alamos, New Mexico, and writes, "Staying busy–President of International Association of Volcanology and Chemistry of the Earth's Interior and on a bunch of committees. Started an interdisciplinary group three years ago at Los Alamos to model cities. Am also at University of Rome-III Geology Department for six months, working with the urban geology team." E-mail address is heiken@lanl.gov.

**Arch H. Heim** (B.S., 1950) is retired from Schlumberger-Doll Research Center and resides in Nelson, Missouri.

**James H. Helland** (Attended 1939 and 1943) is President of Inland Ocean, Inc. in San Antonio, Texas, and writes us, "Still finding oil and gas, but I can't keep up with falling prices. If no improvement is made this year, I just might quit and play golf and travel."

**John D. Henderson** (B.S., 1937) resides in Dallas, Texas, and writes, "Retired from oil business but stay moderately busy with various investments."

**Steve Henderson** (B.S., 1990) lives in Joshua, Texas, has an e-mail address of

steve.henderson@halliburton.com, is an instructor with Halliburton Energy Services in Fort Worth, Texas, and writes, "Surviving the bust (so far), and dreaming of $30 per barrel oil."

**Larry R. Hensarling** (B.S., 1956) lives in San Antonio, Texas. He writes, "The oil business in South Louisiana is very slow; however, our company is starting a drilling program on a salt dome based on subsurface geology and 3-D seismic." Larry is a former member of the Geology Foundation Advisory Council.

**Reverend Reid Hensarling** (M.A., 1981) is rector of the Church of the Redeemer in Germantown, Tennessee, and writes, "My family and I have moved from South Carolina to Memphis, Tennessee. I now pastor an active and growing Episcopal church in the suburbs of Memphis. I am so sorry 1999 has been a tough year for the oil business. At least I am a lot closer to Austin!"

**Charles W. Henslee** (B.S., 1951) is retired and writes from Houston, Texas, "Nothing new. Golf, some travel, bridge, and usual assortment of 'Golden Years' problems. Oldest grandson committed to play football for Air Force Academy. T.U. missed a good one."

**Jonathan Herwig** (M.A., 1982), has e-mail address of jcherwig@oees.com, is Vice-President with Ogden Environmental in Honolulu, Hawaii, and writes from Kailua, Hawaii, "Still enjoying life on the Islands with Bobbie. Now involved in overseeing business initiatives in Germany and Japan, so doing a fair amount of travel. Still doing well in our rapidly consolidating environmental world. A warm aloha to all."

**Charlie Hewitt** (B.S., 1988, M.A., 1990) and **Suzanne Mechler Hewitt** (B.S., 1989) live in Arlington, Texas. They report, "We are proud to announce the birth of our daughter, Elizabeth Jane, on October 26, 1998. Margaret (3) is thriving in the role of big sister. We took a trip to south Padre in June-more depo dump flashbacks!" Charlie is a key account executive for TXU in Dallas, Texas. Their e-mail address is suzmeister@juno.com.

**Jeffery D. Hildebrand** (B.S., 1981) is President of Hilcorp Energy Company in Houston, Texas, and reports an e-mail address of jhildebrand@hilcorp.com.

**John D. Hill** (B.S., 1949) is self-employed in Dallas, Texas.

**F. A. (Fred) Hoeninghaus, Jr.** (B.S., 1949) is retired from Exxon, lives in Houston, Texas, and writes, "Enjoying retirement. Look forward to the *Newsletter* each year. Covered up with grandchildren but love it."

**David S. (Scotty) Holland** (B.S., 1957) is retired in Houston, Texas. He writes that he is "Still active in retirement. If it's not fun, don't do it. Trying to get out of Houston, but …?" Scotty is a member of the Geology Foundation Advisory Council.

**William C. (Bill/Boomer) Holland** (B.S., 1981) is a geoscience consultant in geology/geophysics and writes from Missouri City, Texas, "Enjoying geology and life!"

**James W. Hood** (B.S., 1948) lives in Salt Lake City, Utah, and writes, "Little to report. Eva and I are enjoying retirement but travel little. Still fighting the battle of home repairs. Always glad to get the *Newsletter*, even though the list of grads looks younger and younger."

**Charles J. Hooper** (B.S., 1950) is retired from Dresser Industries in Houston, Texas. He is a member of the Geology Foundation Advisory Council.

**Eleanor M. (Ellie) Hoover** (B.S., 1956) from Conroe, Texas, is a consultant and Exxon annuitant and writes, "Visited in Taos and Los Alamos, northern New Mexico, last year and enjoyed some great views of the spectacular rocks. Also enjoyed R. Folk's talk in Houston earlier this year about nanno bacteria/life on Mars, etc. 'Go Luigi'."

**Kimberlee W. Millberry Horan** (Attended 1981) begins as Adjunct Professor at Western Connecticut University in the Fall of 1999, in Monroe, Connecticut, and writes, "We have recently moved into our dream home and are breeding Siberian Huskies. I am guest lecturer at local public and private schools (Fairfield County) on topics: geology, gemology, environmental issues, etc." E-mail address is jfkwmhoran@aol.com.

**Carlton W. Hornbeck** (B.S., 1953), an independent petroleum geologist in Round Rock, Texas, writes, "Oil business folks are optimists and dreamers–the last ten years have been rough, and I'm having bad dreams, but I know it's going to get better soon." E-mail address is tejas26@aol.com.

**G. B. (Bill) Howard, IV** (B.S., 1982) is President of Flare Resources, Inc. in Houston, Texas.

**John W. Howard** (B.S., 1986) is Senior Vice-President with Trading for KN Energy in Houston, Texas, and writes, "Finished law school, but no plans to actively practice. First baby (girl) due in June. Hollywood Van Reunion being organized by Squarehead." E-mail is John_Howard@kne.com.

**Raul Huerta** (M.A., 1980) writes from Houston, Texas, "Recently accepted position as planning adviser for newly formed company called Exxon Upstream Development Company. Still living through Houston summers." E-mail address is raul.huerta@eusa.sprint.com.

**Jack T. Hughes** (B.A., 1941), e-mail address 102443.3442@compuserve.com, resides in Canyon, Texas, and writes us, "Every time I complete a retirement project, I find a couple more."

**Ed Hughston** (M.A., 1950) is "Self unemployed" and writes, "Continuing to live in beautiful Northern New Mexico."

**Steve Hulke** (M.A., 1978) is Senior Staff Geologist with Santa Fe Resources in Midland, Texas, with an e-mail address of hulkes@sfer.com.

**Emmett A. Humble** (B.A., 1949, M.A., 1951) is a consultant in Houston, Texas, has an e-mail address of humble@hal-pc.org, and writes, "Still consulting, mainly in Far East. Lorine and I just returned from three weeks in the Persian Gulf area and continue to be amazed at what 'Petro Dollars' can do, even at $10/barrel. Also, enjoying our 18-month-old great-grandson! Hopefully another 17+ years will see him headed for UT. You're doing a great job. Thanks."

**Elvin M. Hurlbut** (B.S., 1943) is retired and writes from Tyler, Texas, "Am devoting this whole year to getting rid of stuff. Down to one cat but also feeding the neighbor's three cats. Doctor visits take up the rest of the time. Virginia and I are still functioning."

**Dan Huston** (M.A., 1987), whose e-mail address is hunter3d@wt.net, is an independent geologist with Hunter 3-D Inc. in Sugar Land, Texas, and writes, "Holly and I have been in business for two years now as geophysical consultants. Our web page is at http://web.wt.net/~hunter3d. Work is steady, and we are preparing a Yegua prospect now to show in mid 1999."

**Jim Immitt** (M.A., 1981) is Manager of Financial Analysis for AMD in Austin, Texas, and writes, "Greetings to all from Pam, Jim, Angela, and Adrian. We are all gratefully happy and healthy. I felt motivated by the realization that I was 'middle-aged' to run the 1999 Motorola Marathon. It was fun and sobering in that I felt 'old' (but overjoyed) at the finish line. Now that I've got that mid-life crisis stuff out of the way…" E-mail address is Jim.Immittt@amd.com.

**J. R. Jackson, Jr.** (M.A., 1940) resides in Houston, Texas, and writes, "Just returned from a three-week cruise and tour around the Arabian Gulf and the Red Sea. Wonderful educational trip, in spite of being with Alumni Association. From heights of wealth and splendor to the depths of squalor and filth. Marvelous scenery and geology. Great history, religion, and people."

**Joe L. Jackson** (B.S., 1956) is retired in Alamogordo, New Mexico, e-mail address winifred@netmdc.com, and writes, "Still at 3R ranch (rocks, rabbits, and rattlesnakes). Come see us."

**Russell W. Jackson** (B.S., 1976) is a petroleum geologist with Tyler Oil & Gas, Inc., in Tyler, Texas, and writes, "Well, some-times I wonder if Dr. Ellison was right. Oil business has hit bottom here in East Texas but seems to be turning around. If any of you have any business in Tyler or East Texas, give me a call."

**S. Lance Jackson** (B.S., 1979) is a consulting geology scientist in Kingwood, Texas, and writes, "Keeping busy with projects from the Mid-continent to offshore." E-mail address is ljack88856@aol.com.

**Otis James** (M.A., 1952), an independent oil and gas producer in Gainesville, Texas, writes, "No change in status."

**Jim Janssen** (B.S., 1979) is a geologist in Houston, Texas, and states, "Six years now in Houston with Walter Oil & Gas. Many changes in the industry, but we seem to be able to weather things pretty well. Linda, the boys, and I are doing great. Good luck to all."

**Kenneth L. Jarratt** (B.S., 1957) is the owner of Jarratt Realty in Edna, Texas, and writes, "Trying to slow down and just hunt and fish. Four grandkids keep Joyce and me going all the time. Looks like the Horns have turned things around for the better."

**Borden Jenkins** (B.S., 1978) is an independent petroleum geologist in Corpus Christi, Texas, and writes, "The 3-D craze was fun while it lasted, but it looks like it's time to dig in for some tough times ahead!"

**Les A. Jeske** (B.S., 1984) is a hydrogeologist with ETTL Engineering & Consultants, Inc. in Tyler, Texas, e-mail address hydro@tyler.net, and writes, "We've been in East Texas now for the last seven years and love every minute of it. Our four children, Abby (7), Walker (5), Martha (3), and Ginnie (7 months), keep us busy doing what kids do best–playing. If you are ever in the area, please call or stop by to say hello."

**Charles B. John** (B.S., 1951) is a consultant with the Department of the Interior in Tulsa, Oklahoma, and writes, "I continue to conduct research along the frontal belt of the Ouachita Mountains of southeastern Oklahoma. Norma and I are O.K., working on our 53rd year of marriage. Thanks for the *Newsletter*."

**Mary Johns** (Ph.D., 1995) is a research geologist with Exxon Production Research in Houston, Texas.

**Charles G. Johnson** (B.S., 1983) is a geologist with McGowan Working Partners in Jackson, Mississippi, with an e-mail address of charliegj@aol.com.

**Herbert R. Johnson** (B.S., 1957) is semi-retired with Conch Oil, Inc. in Wichita, Kansas, and writes, "Just hanging on and hoping the oil price recovers."

**Russ Johnson** (B.S., 1997) lives in Llano, Texas, and is an environmental geoscientist with Roy F. Weston in Austin, Texas.

**Charles R. Jones** (B.S., 1950) is a retired petroleum geologist in Midland, Texas, and writes, "Enjoy traveling and visiting other areas. We spend about half our time at our cabin at Ruidoso, New Mexico, in the cool mountains. It is very enjoyable and relaxing."

**Gene (Funkhouser) Keyser Jones** (B.S., 1948) is retired in Midland, Texas, and writes, "We're looking forward to news of old friends. The *Newsletter* keeps me updated and current. The West Texas oil industry is non-existent, but we are okay–practicing a little frugality and belt-tightening. Best wishes to everyone." Their e-mail address is philjones1@msn.com.

**J. Phil Jones** (B.S., 1964) is President of Classic Exploration Trades, Inc. in Edmond, Oklahoma, and reports, "Retired from Kerr-McGee but not retired. I'm enjoying resumption of my company, Classic Exploration, working on a number of interesting projects, and making frequent trips to Austin to visit kids and grandchildren. Daughter, Rebecca, getting married in August. We'll spend two weeks at Big Sky and then a trip to Alaska before the wedding." E-mail address is philj@flash.net.

**James Douglas Kallina** (B.S., 1953) resides in Sugar Land, Texas, and is President and owner of JDK Incorporated in Stafford, Texas. E-mail address is jdkseis@aol.com. He writes, "JDK Incorporated provides leading edge technology for 2-D, 3-D, and 4-D seismic data processing, prestack imaging, acquisition program design, acquisition program management, and seismic data exchange."

**Edwin N. Kasper, Jr.** (B.S., 1951) is retired in Houston, Texas, and writes, "Ex-Students' Association 'Update 1999' in June should be a 'good one.' I am looking forward to being in Austin and having some visiting time! A different Houston home is shaping up, and I am getting to enjoy some RC model flying. Best wishes!"

**Steven G. Katz** (Ph.D., 1975) is Vice-President of Operations at a company in Granville, Ohio, and writes, "Connie and I continue to enjoy living in Granville, Ohio. I'm challenged by exploring new business ventures in polymer composites. Regards to everyone at UT."

**Daniel N. Keeler** (B.S., 1980) writes from Midland, Texas, "I continue working as contract geologist at Mobil, drilling horizontal gas wells in Midland Basin. Andrea and I are enjoying Midland and West Texas." E-mail address is dnkeeler@apex2000.net.

**Kevin Kelly** (B.S., 1982) lives in Honolulu, Hawaii.

**Andrew W. Kendrick** (B.A., 1986) is a Senior Hydrogeologist/Geochemist with Tetra Tech NUS, with an e-mail address of kendricka@ttnus.com in Pittsburgh, Pennsylvania, and writes, "My son, James, is coming up on 3 years this July with our second due next fall."

**Ed R. Kennedy, Jr.** (B.S., 1948, M.A., 1949) is a consulting geologist in Midland, Texas, and writes, "Still enjoy visiting my M.A. thesis site in the Sierra Vieja Mountains. Very little change since 1948."

**George L. Keprta** (B.S., 1952) is retired in East Bernard, Texas, and writes, "Most of our time in 1998 was spent working on our new home. This year we plan to cruise the Danube River through Austria, Slovakia, and Hungary."

**Don Kerr, Jr.** (B.S., 1960) is President of Kerr Construction Services in Houston, Texas.

**Marcus Key** (B.S., 1983) is Associate Professor of Geology with the Department of Geology at Dickinson College in Carlisle, Pennsylvania, and writes, "I am headed to Trinity College in Dublin for a one-year sabbatical, studying Guinness and bryozoan growth rates." E-mail address is key@dickinson.edu.

**Robert S. Kier** (Ph.D., 1972) is principal consultant for Robert S. Kier Consulting in Austin, Texas, with an e-mail address of rskconsult@aol.com, and writes, "Business is booming and it's wearing me out–or maybe I'm just getting old. Suppose?"

**Robert J. Killian** (B.S., 1977) is a petroleum geologist and writes from Houston, Texas, "I am now working and officing with Global Resource Management in the Galleria area." E-mail address is mavrah@yahoo.com.

**Thomas M. Kirkpatrick** (B.S., 1984) is a geologist with IT Corporation in Knoxville, Tennessee, with the news, "Living in Knoxville, home of 'the other UT' NCAA football champs and enjoying from afar as the Horns ascend to their rightful place of national prominence on the gridiron. There are a lot of orange hats here, but mine is one of the only ones with a longhorn on it. Will be giving a geology presentation to four classes of first graders this week. Should be fun."

**Don L. Kirksey** (B.S., 1960) is co-owner of Kirksey Consulting in Oklahoma City, Oklahoma, and reports, "Enjoy running Kirksey Consulting with my wife, B. J. Waste management has been an enjoyable field for me after a 30-year career in exploration geology with Tenneco that took me to Alaska and Europe. We are having fun with our new travel trailer and spending time with our three grandchildren."

**Radim A. Kolarsky** (M.A., 1992), a senior geologist, writes us from New Orleans, Louisiana, "Come visit me and my wife on our Web page at http://www.geocities.ou/heartland/estates/9121. I would love to hear from all former classmates." His e-mail address is radim@shellus.com.

**Rick Kolb** (M.A., 1981) resides in Cary, North Carolina, and is a project manager in Raleigh, e-mail Rkolb@lawco.com. He writes, "I'm in my ninth year at Law Engineering in Raleigh, primarily managing environmental and geotechnical projects. My wife died of cancer in 1992, and I remarried in

1995 to an IBM'er. Oldest daughter, born in Austin, graduates high school in May."

**Erwin K. Krause** (B.S., 1949, M.A., 1954) is retired in Houston, Texas, and writes, "Had an interesting trip to China in March of 1999. The Great Wall was covered with ice. So was a 75-year-old retired geologist, but he climbed the wall. Beijing has 13 million people and 7 million old bicycles."

**J. David Krause** (B.S., 1953), e-mail 2krause@gte.net, is retired in Kuala, Hawaii, and reports, "Bessie and I still are kicking up our heels in Hawaii and loving every minute of the good life. We have our condo at the beach also, back and forth, fun, fun. We just built a new house on our $2^1/_2$ acres up-country. Plans are to sell the house we were living in with 1 acre of its own, too much yard work for an old man like me. We rooted for the Horns all year and sure were proud of them. Would like to hear from you. Aloha."

**J. Scott Kuykendall** (B.A., 1975) is Project Geologist and Project Manager with PSI, Inc. in San Antonio, Texas, and writes, "Praying for early retirement."

**Ted B. LaCaff** (B.S., 1950) is a metal hunter in Santa Fe, New Mexico, and writes, "Since last *Newsletter*, I won a 'Gold' in rifle and a 'Bronze' in horseshoes at the State of New Mexico Senior Olympics. Going to Orlando for the 'Nationals' in October. With Y2K coming up, I hope all of the 'Class of 1950' respond to the *Newsletter*!" E-mail address is tedlatx@aol.com.

**Laurel Lacher** (B.S., 1987), e-mail address llacher@therim.com, resides in Pinetop, Arizona, is a senior hydrologist with White Mountain Apache Tribe in the Environmental Planning Office in Whiteriver, Arizona, and writes, "Life after grad school (I received my Ph.D. in 1996) is grand. I'm enjoying the experience of working as a tribal advocate but still keep the ties to academia, too. Spent a phenomenal month in Tanzania in January. Kilimanjaro was spectacular!"

**George A. Laguros** (M.A., 1987) resides in Katy, Texas, is an advanced geophysicist with Marathon Oil Company in Katy, (Houston) Texas, and writes, "In March, after $7^1/_2$ wonderful years in Aberdeen, Scotland, the Marathon expatriate police finally caught up with me and sent us back to Houston. Goodbye North Sea, hello Gulf of Mexico (both in terms of climate and job description). Michael (8) and Daniel (6) think America is 'kinda weird,' and Virginia has rekindled her passionate hatred of Houston traffic." E-mail address is galaguros@marathonoil.com.

**James L. Lamb, Jr.** (B.S., 1956) is an oil and gas producer in Austin, Texas.

**Leon M. Lampert** (B.S., 1951, M.A., 1953) is an independent geologist in Dallas, Texas, and writes, "Although I moved to Dallas from Corpus Christi in April 1998, I still have an office in Corpus. Working in South Texas and trying to buy producing properties and royalties. Hope oil prices stay up. I need an old tennis partner in Dallas. Have two granddaughters in Dallas and two grandsons in Denver."

*Students and staff of 1989 summer field camp, west of Cloudcroft, New Mexico. Photo provided by Karen Carter Krogh.*

**Bill Layton** (B.S., 1981) is a petroleum geologist in San Antonio, Texas. He writes, "Exploring for oil and gas with Burke Royalty Company along Texas Gulf Coast, primarily within Tertiary growth fault trends. Kids, Joe (19), Jessica (15), and Jordan (11), all doing well. My wife, K.C., and I try to sneak up to the 'Hill Country' as often as possible. Hi to 1980 660 gang, Boomer, Clinch, Ligon, Darr, Lisa, Compton, Ambrose, Lancaster, and Irby."

**H. Louis Lee** (B.S., 1954, M.S., 1958), a consulting geologist, reports from Austin, Texas, "Still having a great time finding a little oil and gas with all the new technology."

**Ann Hoadley Leist** (B.S., 1979) writes, "Accounting for Conans Pizza. Both kids in high school. Living well in Austin. Life is great. Hello to old friends. No pun intended."

**Raymond C. Leonard** (M.A., 1977) writes, "In June 1998, I left Amoco and joined First International Oil Corporation, a newly formed company, as Vice President of Exploration. We are now the largest acreage holder in Kazakhstan with 10 licenses. Our first field went on stream in April 1999. I continue to reside in Almaty, Kazakhstan. Working in a company with a 100-percent national staff has been a great learning experience. My eldest son, Ben (21), is studying Engineering at Cornell, Dan (20) is studying Liberal Arts at Lewis and Clark College, and daughter, Anya (16), is a junior at TASIS-England."

**G. Warren Leve** (M.A., 1952), e-mail address gilbertwl@aol.com, is retired in Ponte Veduz Beach, Florida, and writes, "Recently went to Gobi Desert to see area where dinosaurs' eggs and bones were discovered. Unfortunately, couldn't find any. Guess the vertebrate paleontologists beat me to the nests. Now I have to go back to just playing golf and fishing."

**Ning Li** (Ph.D., 1998) is a geoscientist with Paradigm Geophysical in Houston, Texas, with an e-mail address of ning_1898@yahoo.com.

**Tim Lignoul** (B.S., 1982) resides in Sherman Oaks, California, is an environmental attorney in San Pedro, California, and writes, "I am now practicing law in the Los Angeles area. I handle superfund and other federal cases. My geology degree furnished me with a great background."

**John F. Ligon** (B.S., 1981) is co-owner of Sandalwood Oil & Gas, Inc. in Houston, Texas, and writes, "I'm enjoying the roller coaster ride of a one-year-old boy and, of course, the oil and gas exploration business. Hello to all in the class of 1981. Hard to believe it's been 18 years."

**Ken Liles** (B.S., 1950) resides in Bullard, Texas, and writes, "Enjoying retirement years. Enjoy travel with Fran to visit kids, grandkids, and now two great-grandkids. Would offer a word of encouragement to those going into the oil patch now. In 1950, conditions were very much like they are now, but it all worked out–so hang in there. Also, great to see UT's athletic program getting untracked."

**Russell M. Lilly** (B.S., 1953) lives in Oklahoma City, Oklahoma, and writes, "Started a new vending business to stay busy."

**Tung-Hung Thomas Lin** (M.A., 1984), e-mail address tlin@samson.com, is senior

geophysicist with Samson Resources in Tulsa, Oklahoma.

**Eugene Lipstate** (B.S., 1949) is a partner with Lipstate Associates in Lafayette, Louisiana, and writes, "At this writing, still alive and kicking. Planning our 50th wedding anniversary next February–will take the entire family on a cruise. Hope to be in San Antonio, Texas, for AAPG convention. Not too many of us old timers still attend." E-mail address is e1state@aol.com.

**Erwin R. (E. R.) Lochte, Jr.** (B.S., 1956) is a semi-retired petroleum geologist in San Antonio, Texas, and writes, "Have several prospects that could possibly be pursued should oil and gas prices return to some higher level. Otherwise, enjoying our Hill Country ranch and our cattle."

**James Lockley** (B.S., 1978) lives in Spring, Texas, with an e-mail address of James.Lockley@coastalcorp.com, and writes, "Moved to Houston in August 1997 with Enserch (EEX), after 18 years in Dallas, Texas. Switched companies to Coastal in November 1998 after 17 years with Enserch."

**Allen C. Locklin** (B.S., 1954) is an independent geologist in Tyler, Texas. He writes, "I will turn 70 this year. Where did those years go? Nancy (Summers) and I will be married 45 years soon. Our two children, Chris and LeeAnn, daughter-in-law Lisa, son-in-law Scott Shaver, and all five grandchildren doing exceptionally well. Oldest granddaughter, Lindsey Shaver, was Homecoming Queen this year and plans to go to UT. Oil biz is sick as we all know, yet, I'm still trying to get ideas drilled. Keep up the good work."

**Kenneth Loep** (B.S., 1960) is President and partner at North American Energy in Houston, Texas, and writes, "Back to drilling wells in South Texas and the Midland Basin."

**John L. Loftis, Jr.** (B.S., 1940) is retired in Houston, Texas.

**Ted Longgood** (B.S., 1958) retired from Exxon as a petroleum geologist and living in Austin, Texas, writes us, "Have enjoyed living in Austin for past three years. Also fun seeing local guys I went to school with in Geology Department. Now have three grandsons and two granddaughters–wow, what fun they are!"

**Mark W. Longman** (Ph.D., 1976) informs us as follows: "Mark W. Longman continues to work as a consulting geologist in Lakewood, Colorado, and writes that he has recently been doing research on the carbonate rocks and sediments of Kauai. 'It's a tough duty, but someone has to do it!'" His e-mail address is mwlongman1@aol.com.

**Mark Longtine** (M.A., 1991) is an environmental consultant with Ecology & Environment, Inc. in Seattle, Washington, with an e-mail address of mlongtine@ene.com.

**Lester E. Ludwick** (B.S., 1950), retired in El Paso, Texas, writes us, "Enjoying the retirement scene, following the Horns' sports." E-mail address is lml321@aol.com.

**Paul D. Lundegard** (Ph.D., 1985) is principal advising scientist with Unocal in Fullerton, California, and writes, "Still serving Unocal as an internal environmental consultant (high resolution exploration geochemistry!)." E-mail address is pdlundeg@unocal.com.

**Vance M. Lynch** (B.S., 1951) is retired as Vice-President from Unocal Corporation and living in Liberty Hill, Texas. He writes, "Still enjoying retirement in the Hill Country and attending UT athletic events, as well as serving on the Geology Foundation Advisory Council." His e-mail address is vancesarah@juno.com.

**David Mackintosh** (B.S., 1993) is a law student in Baton Rouge, Louisiana. Reports an e-mail address of david_mackintosh@hotmail.com.

**Christopher Marshall** (B.S., 1981), e-mail address crism@iglobal.net, lives in Plano, Texas, and is a high school geology teacher in The Colony, Texas.

**Sabin W. Marshall** (B.S., 1952) is retired in Houston, Texas, and writes, "We took a trip to England, Scotland, and Wales. Enjoyed the Orkney Islands off Scotland coast. Saw many archaeological sites."

**Paul Martinez** (B.S., 1984) lives in Littleton, Colorado.

**Christina Massell** (M.S., 1997), e-mail address of cmassell@ucsd.edu, is a graduate student at the Scripps Institution of Oceanography in San Diego, California, and writes, "I'm continuing work towards my Ph.D. in marine geology and geophysics. My research cruises have taken me all over the Pacific Ocean, from Peru, Chile, and Samoa to Hawaii. Life is wonderful in sunny California!"

**Robert L. McBroom, Sr.** (B.A., 1951), an independent geologist/Adjunct Professor at Midwestern State University in Wichita Falls, Texas, writes us, "Still hunting for oil in North Texas and Utah, although lately I often wonder why. Teaching English at Midwestern State University." E-mail address is macescoba@aol.com.

**William E. (Bill) McBroom** (B.S., 1940) lives in Wichita Falls, Texas, and writes, "I am now at an age (80) where I am looking more at the past and less at the future." E-mail address is macsweep@cyberstation.net.

**John C. McBryde** (M.A., 1979) is President of Mid-Continent Minerals, Inc. in Oklahoma City, Oklahoma, and writes, "Despite low oil prices, we've been able to participate in several successful wells over the past 18 months. We are currently heavily involved in the Powder River Basin coalbed methane play. It is very interesting–80-feet-thick coals at 500-feet make lots of gas–and no dry holes! We've brought several technology improvements into the play and are seeking innovations every day." E-mail address is jmcbryde@compuserve.com.

**Robert B. McCarty** (B.S., 1950) has been retired from Exxon since 1986, resides in Austin, Texas, and writes, "Still enjoying traveling. Spent three weeks in Turkey last year and saw some geologic wonders. Plan to visit Greece this year. Will always miss friends in the oil business and the thrill of discovery."

**Matt L. McCullough** (M.A., 1990) lives in Sugar Land, Texas, is a geologist with Marathon Oil Company in Houston, Texas, and writes, "Just trying to keep my head above water in the deep Gulf of Mexico." E-mail address is mlmccullough@marathonoil.com.

**Cynthia Coxe McDowell** (M.A., 1981) lives in Dallas, Texas.

**Kenneth Otto McDowell** (M.A., 1983) is a staff geophysicist at ARCO International and lives in Dallas, Texas.

**Edward (Ted) McFarlan, Jr.** (M.A., 1948) is a consulting geologist in Houston, Texas, and writes, "Regional exploration in the Cotton Valley trend in East Texas provides a challenge for me in spite of reduced industry activity."

**T. A. (Mac) McGilvery** (Ph.D., 1996) is a stratigraphic adviser with Phillips Petroleum in Bartlesville, Oklahoma, and writes, "Having a great time working with the exploration and production teams throughout Phillips." E-mail address is tamcgil@ppco.com.

**Richard McGlathery** (B.S., 1976) works for Panhandle Royalty Co. in Oklahoma City, Oklahoma.

**Wayne E. McIntosh** (B.S., 1956), with an e-mail address of wemhuzi@aol.com, is a consultant engineering geologist in Rockwell, Texas, and writes, "Still consulting for some government agencies in Washington, D.C., and Puerto Rico. Still traveling in our motor home, generally visiting kids and grandchildren scattered around the country, i.e., Rhode Island, Key West, Albuquerque, and Seattle. Lots of time on the road."

**Charles E. McKemie** (B.S., 1979) resides in Griffin, Georgia, reports an e-mail address of cemckemie@dow.com, is National Sales Service Manager with Essex Specialty Products in Auburn Hills, Michigan, and writes, "I currently manage a group of auto assembly plant process experts as part of our customer support for the specialty sealants and adhesives we sell to the auto assembly industry."

**Thomas E. McKenna** (Ph.D., 1997), e-mail address of mckennat@udel.edu., is a geologist/hydrogeologist with Delaware Geological Survey, University of Delaware in Newark.

**Robert J. McLellan** (B.S., 1949) writes, "Barbara and I continue to enjoy our retirement in Kerrville, Texas. We travel, garden, golf, and try to keep track of the grandkids (5). If I had any spare time, I would buy a computer."

**Mike McLeod** (B.S., 1986) lives in Pleasant Hill, California, and writes, "Still in the environmental geology field. I'm starting to get involved in more remediation-oriented projects, but investigations still take quite a bit of time. Say 'howdy' if you're in the Bay Area."

**Jereld E. McQueen** (B.S., 1961, M.A., 1963), e-mail address jemc@wt.net, is a consultant in Kingwood, Texas, and writes, "No change from last year."

**A. D. McRae** (B.S., 1942) is retired in Horseshoe Bay, Texas.

**Joe N. Meadows** (B.A., 1962), an attorney-at-law, writes us from Waco, Texas, "Practicing a little law and enjoying scuba diving and grandchildren." E-mail address is meadowsjoe@aol.com.

**John A. Means** (M.A., 1948) is retired in Richardson, Texas, and writes, "Still enjoy working the Sunniland LS in South Florida. Go down to Florida usually twice a year, for a company out of Houston, Texas."

**Peter Megaw** (B.A., 1976, M.A., 1979) is President of IMDEX, Inc., in Tucson, Arizona, and writes, "After a grim year in metals exploration, Mexico appears to be rebounding, thanks to silver and zinc. Let's see if it lasts. Best to all in oil patch. We're all in the same boat." E-mail address is pmegaw@imdex.com.

**Doug Melius** (M.A., 1982) is Pastor of First Presbyterian in Sheridan, Wyoming, and writes, "Left the Rockies as a geologist in 1988 and returned as a Pastor in 1998."

**John W. Merck, Jr.** (Ph.D., 1997) resides in Alexandria, Virginia. E-mail address is jmerck@bellatlantic.net.

**Charles M. Merrill** (B.S., 1956) is living in Austin, Texas, and writes, "Still enjoying retirement in far southwest Austin, playing handball (in 'slo mo,' as my wife says) out at UT, attending Austin Geological Society meetings and field trips, and reflecting on the good old times at 'Fuzzy's' in Llano back in the mid-fifties, whenever I pass through there." His e-mail address is merrill@ccms.net.

**Heidi Mertig** (M.A., 1995) is living in Elko, Nevada, and working as an engineering geologist for Barrick Goldstrike Mining.

**Mario L. Messina** (B.A., 1959), with an e-mail address of messina.oilfield.chemicals@worldnet.att.net, is Chief Executive Officer of Messina, Inc. in Dallas, Texas, and writes, "Have been in more properties in Texas, Florida, and Europe. Keeping track takes up as much time as my oil field supply and service company."

**Anne (Smith) Miller** (B.A., 1983) is a Project Manager with the Texas Natural Resource Conservation Commission in Austin, Texas, and writes, "We're immersed in the world of T-Ball with our son, Anthony (five years old, July 1999). We have recently taken the plunge for number two. We're expecting a son in September 1999. 'Hey!' to my special pals."

**Daniel N. Miller, Jr.** (Ph.D., 1955) is retired in Chapel Hill, North Carolina, and writes, "Still active and available as a short-term Special Guest Lecturer on a variety of professional geologic subjects. Will receive a 50-year distinguished recognition award (for the class of 1949 alumni) from what used to be Missouri School of Mines and Metallurgy at Rolla, Missouri."

**Elizabeth Miller** (B.S., 1980) is a criminal defense attorney in Dallas, Texas.

**Ginger Braswell Miller** (B.S., 1987) is a home manager in Englewood, Colorado, and writes, "After looking all summer, we finally became homeowners in Denver. Guess we're here to stay for a while. We try to attend Rocky Mountain Texas Exes functions when we can. My connection to the real world is gabmil@flash.net."

**Harry A. Miller, Jr.** (B.S., 1941) is an independent geologist in Midland, Texas, and writes, "Am a working geologist surviving the latest bust. Different–but still fun." Harry is a member of the Geology Foundation Advisory Council.

**R. Dick Miller** (B.S., 1951) writes from retirement in Georgetown, Texas, "We do some traveling in our motor home. I play golf and even though Georgetown is getting crowded, we enjoy the country life where it is still quiet and peaceful."

**Wayne D. Miller** (M.A., 1957) is a geologic consultant in Midland, Texas, and writes, "Staying busy with my consulting business, which takes up 100 percent of my time. Still enough companies needing geologic studies, especially with the recent downsizing, they have no in-house geologists available for this type of work. Everyone doing fine and enjoying the oil business–even with the lower oil price."

**Bill Monroe** (B.S., 1963) is a senior geologist with Jetta Production in Fort Worth, Texas, has an e-mail address of bmonroe @jettapc.com, and writes, "Over 30 years and still enjoying the daily challenge of finding oil and gas reserves left behind in the mature basins of Texas, Louisiana, and Mississippi. Anyone who has not visited Fort Worth in a few years should come and see the changes, particularly downtown. Only city in Texas that can match Austin for Mexican food, barbecue, and great golf courses. Best move I ever made was leaving Houston."

**Charles Gardley Moon** (B.S., 1940, M.A., 1942, Ph.D., 1950) is retired from Exxon, is residing in Houston, Texas, and writes, "My car was broken into and was in the garage for repairs for a month—some needed parts were not readily available. Then, I had a virus for a week, but am now okay and back to walking $1\frac{1}{4}$ miles daily."

**R. McKay Moore** (B.A., 1952) is an independent geologist in Shreveport, Louisiana.

**Terry L. Moore** (B.S., 1980) resides in Sugar Land, Texas, is a Senior Geophysical Specialist with Phillips Petroleum Company in Houston, Texas, and writes, "Working on Brazil full time now. Attended the 1998 AAPG International Convention in Rio de Janeiro, where my wife and son, Beverly and Cyrus, joined me mid-week. We are all still heavily involved in the Special Olympics." His e-mail address is tlmoore@ppco.com.

**Charles Motz** (B.S., 1960) is retired in New Braunfels, Texas, and writes, "Survived the New Braunfels flood. Keeping busy with home chores, community service, and looking forward to arrival of 16th grandchild due in September."

**Harry W. Mueller, III** (Ph.D., 1975) resides in The Woodlands, Texas, and is a geologist with Exxon in Houston, Texas. He writes, "Over 23 years with Exxon and still doing carbonates. Am in the process of divorcing my wife–hopefully that will be finished before the disruptions of the Exxon/Mobil merger finally arrive. James is majoring in oceanography at the Naval Academy (but really wants to fly). Kristen is thinking of majoring in computer sciences or veterinary medicine at A&M. I finally had my degree framed in burnt orange in reaction."

**Pat Murta** (B.A., 1941) is retired in Tulsa, Oklahoma, and writes, "I was at UT from 1937 thru 1942. I am older than dirt; on my third wife; have 15 kids and stepkids; 39 or 42 grandchildren; and 3 great-grandchildren. Swim $\frac{1}{4}$ mile per day, have two or three drinks, and watch *Friends* and *Ally McBeal*."

**Steve Musick** (B.S., 1976) is manager at the Texas Natural Resource Conservation Commission in Austin, Texas. Reports an e-mail address of smusick@tnrcc.state.tx.us.

**G. Allan Nelson** (B.S., 1947) is a consultant in Denver, Colorado, and writes, "Looking forward to the fifth reunion of the famous 1947—1948 class in the fall of 2000 in Corpus Christi, Texas. Thanks to Charles Forney for putting this on."

**Ken Nemeth** (M.A., 1976), e-mail address kenemeth@ix.netcom.com, is a geoscientist and interpreter at GeoQuest in Dallas, Texas. He writes, "I am continuing to learn the current software while upgrading to the newest releases. I am on the advisory board for the Ellison Miles Geotechnology Institute at Brookhaven College and teach the GeoQuest IESX introduction course there."

**Paul Neumann** (B.S., 1987), e-mail address of gyrodata.bolivia@sccbs-bo.com, is an operations manager in Santa Cruz, Bolivia, and writes, "Moved to Bolivia from Venezuela to start up operations in Bolivia and Brazil for Gyrodata International for which I have worked for the last five years."

**John H. Newcomb** (M.A., 1971) lives in Houston, Texas, is a staff geologist with Aviara Energy with e-mail address of jnewcomb@aviaraenergy.com, and writes, "Looking for oil and gas prospects in Gulf of Mexico (shelf area). Son graduated from TCU with degree in finance. Daughter is attending St. Thomas University in Houston."

**Richard Nicholas** (B.S., 1968) of Denton, Texas, writes, "September 1, 1998, appointed Vice President for Student Life at Texas Woman's University." E-mail address is rnicholas@twu.edu.

**Paula J. Noble** (Ph.D., 1993) is an Assistant Professor at the University of Nevada, Geological Sciences, in Reno, Nevada, and writes, "I am in my second year at the University of Nevada, Reno and loving it. My work focuses on biostratigraphy in the Roberts Mountains Allocthon and its tie with gold exploration in the Carlin Trend, plus plankton extinctions and community dynamics in the Silurian of the Canadian Arctic." E-mail address is noblepj@unr.edu.

**David C. Noe** (M.A., 1984), e-mail address of dave.noe@state.co.us, is Chief of the Engineering Geology Section of the Colorado Geological Survey in Denver, Colorado, and writes, "This has been quite a year. I received the 1998 Research Award in Environmental Geology from AAPG-DEG and the 1998 John C. Frye Memorial Award in Environmental Geology from GSA-AASG. My book about swelling soil for homeowners has sold 45,000 copies. Finally, I have been selected as the new Chief of the Engineering Geology section at Colorado Geological Survey."

**Isaac W. Norman** (B.S., 1948) is retired and resides in Taylor, Texas.

**Carol Doran Northern** (B.S., 1984) resides in Alpharetta, Georgia, and is a principal geologist with Law Engineering & Environmental Services, Inc. in Kennesaw, Georgia. E-mail address is cnorther@lawco.com.

**Bob R. O'Brien** (B.S., 1952, M.A., 1956) is a Professor in the Geography Department at San Diego State University in San Diego, California, and writes, "The book I've been working on the last few years has finally been published by the University of Texas Press: *Our National Parks and the Search for Sustainability*, and am going to play a bit. Now I can go on to other things, like travel." E-mail address is Bobrien@mail.sdsu.edu.

**John F. O'Donohoe** (B.S., 1950) is President and Chief Executive Officer of Coastline Exploration, Inc. in Houston, Texas, with an e-mail address of jfodonohoe@coastexpl.com.

**A. M. (Red) Olander** (B.S., 1948) of Austin, Texas, is retired from Exxon and writes, "We still enjoy being back in Austin. Hopefully the price of oil, cattle, and farm crops will go up soon. It's good to hear that you're adding staff in Exploration Geophysics."

**Orlando J. Ortega** (M.S., 1997), an exploration geologist and on leave from PDVSA in Caracas, Venezuela, lives in Austin**,** Texas, and is pursuing a Ph.D. degree in Geology from The University of Texas at Austin. E-mail address is o.ortega@mail.utexas.edu.

**Donald E. Outlaw** (B.A., 1940, M.A., 1947) lives in Newark, Delaware, is retired from USMC Reserve (Bomb Disposal), General Electric (Aerospace), U.S. Government USGS (Geohydrology), and EPA (Director of Agency's Office Automation and Computers), and reports to us, "As an old man with a long, white beard, my recommendation is get the best and most education you can, but do not allow your education to interfere with earning a living. (I ended up in aerospace and computers.) My server is joining another server. So far they say my e-mail address, doutlaw@ravenet.com, will not change. If it does I will notify you. Keep those *Newsletters* coming. Thanks."

**Kenneth Ira Owens** (B.A., 1954) is retired in Austin, Texas, and writes, "I enjoy seeing old-timers who get to Austin."

**Robert (Bob) M. Owens** (B.S., 1951) is a consulting geologist in Cypress, Texas, and writes, "Enjoy visiting and talking with old classmates at our Gulf Coast Geological Library, here in 'Big H'."

**Lisa Paton** (B.S., 1985) is a teacher in McAllen, Texas, and reports an e-mail address of LDHP60@aol.com.

**Michael Pattarozzi** (M.A., 1975) is Lieutenant in the Englewood Fire Division in Englewood, Colorado, resides in Highlands Ranch, Colorado, e-mail address cptrozzi@worldnet.att.net, and writes, "Just finished my 21st year with the Englewood Fire Division. My last experience with geology was helping our 6-year-old daughter, Katie, with her report on *Apatasaurus*. Now she wants to be a geologist!"

**J. F. Patterson** (B.S., 1952) is retired in Bellaire, Texas.

**Bill R. Payne** (B.A., 1940, M.A., 1941) is retired and writes, "Continue to live in Austin, but spend about one-fourth of the time at our house in Horseshoe Bay. No longer able to travel due to health problems. I am only 82, but it seems I grow older by two years every year. It just seems that way! As always, I look forward to receiving the *Newsletter*. As was stated in your accompanying letter, wish more than 500 would write in than the other 3,500 who do not."

**Jack L. Penick** (B.S., 1942) is semi-retired in Houston, Texas, and writes, "Spend winters at our condo on South Padre Island and summers in Colorado."

**Patrick Pestorius** (B.A., 1997) is with technical support at Landmark Graphics Corporation in Austin, Texas, and writes, "Besides providing technical support for Landmark Geologic Mapping Products, I'm very busy performing in Austin with my band Zuckerman Electric. Come see us!" E-mail is pprstorius@lgc.com.

**Robert W. Pettigrew** (B.S., 1952, M.A, 1954) is retired in Spring Branch, Texas, and writes, "Enjoying living in the Hill Country north of San Antonio. Painting, moving rocks, and landscaping."

**Loren Phillips** (B.S., 1982) is a geologist with the U.S. Army Center for Health Promotion and Preventive Medicine at the Aberdeen Proving Ground in Bel Air, Maryland, and writes, "Enjoying life in Bel Air, Maryland. Son, Adam, is ten years old. The challenge is educating him and keeping him clean. Lisa and I enjoy living next to the Chesapeake Bay. Crab cakes are a favorite here. Environmental work for the Army is keeping me busy. Doing a lot of work on munition test ranges. Real exciting."

**George B. Pichel** (B.S., 1951), is retired in Dana Point, California, and writes, "Attended International Geologic Congress in Rio de Janeiro. Largest ever concept on plate tectonics says Brazil should be mirror image of Angola. Saw Bill Fisher." E-mail address is gpichel@compuserve.com.

**James Piper** (B.A., 1988) lives in Austin, Texas, and writes, "I'm celebrating 20 great years at the Applied Research Laboratories this year. Man, how time flies! We're building a new home on Lake Buchanan, Texas. Many beautiful granite outcrops on the property with lots of smoky quartz and amethyst scattered about..." E-mail address is piper@arlut.utexas.edu.

**Gerald (Jerry) Pitts** (B.S., 1954) is a consultant in Midland, Texas.

**Phillip M. Pitzer** (B.S., 1954), an oil operator in Breckenridge, Texas, writes, "Grayer and more bald but still fighting the good fight; trying to break 90 on a consistent basis; and enjoying 11 grandkids," and reports an e-mail address of philpit@bitstreet.com.

**John M. Pope** (B.S., 1986) is Senior Account Executive in Houston, Texas, has e-mail address of legpop@swbell.net, and writes, "My daughter, Claire, is now 5 years old and eagerly anticipating becoming a 'schooler.' The boys just turned 3 and wonder what all the fuss is about. Paula and I just bought two acres and will begin our dream house soon. Burgess, it's your turn!"

**Robert B. (Bob) Porter** (M.A., 1951) is a geologist, retired from RBP Land Company in Midland, Texas, and writes, "Looking forward to the 1999 football games in Austin, some

juicy ribs at County Line, and a cold one or two at Scholtz's. Longhorn kids and grandkids doing great and oil prices moving up! Semper fi!"

**J. Dan Powell** (Ph.D., 1961) is a consultant in Grand Junction, Colorado, and writes, "Dorothy and I have finally escaped the rat race of Aspen and settled in Grand Junction, where I still do some gas reservoir and exploration work and some fisheries biology." E-mail address is dandorth@aol.com.

**John William Preston** (B.S., 1970) is a geophysicist with Hurd Enterprises, Ltd., in Houston, Texas, whose e-mail address is johnp@pdq.net, and who writes, "Still having fun with 3-D in south Texas, but the oil patch boom/bust cycle is wearing on my nerves. Maybe I'm just getting old, but this just seems like déjà vu all over again."

**Dennis R. Prezbindowski** (Ph.D., 1981) is Senior Research Associate at Texaco EPTD in Houston, Texas. E-mail address is Prezbdr@Texaco.com.

**Joseph L. Pritchett** (B.A., 1946) is a consulting geologist in Lafayette, Louisiana.

**W. T. Probandt** (B.S., 1956) lives in Midland, Texas.

**John L. Proctor** (B.A., 1950) is retired in New Braunfels, Texas, and writes, "In January, we went on a cruise through the Panama Canal. The Canal is truly a marvelous American achievement. Now, the all-wise D.C. government has elected to give it away."

**A. Leo Pugh, Jr.** (B.S., 1952) is retired in Galena Park, Texas, and writes, "Leo reports in from Houston, Texas. The junk business is still going strong, at least better than the oil business. Trying to keep the grandkids in line–send hello to all old friends."

**Jack Ragsdale** (B.S., 1951) lives and works in Gonzales, Texas, and is President of Forge Energy Corporation.

**W. K. (Dub) Rainbolt, Jr.** (B.A., 1957) is President of Dynamic Exploration, Inc. in Lafayette, Louisiana.

**Nathan Rakestraw** (B.S., 1980) is Senior Engineer with CNG Producing Company in Bridgeport, West Virginia, and writes, "It has been another lean year in the 'patch.' Paula and I enjoy the wilds of West Virginia with our two kids, Ryan and Rebecca."

**Clyde M. Rascoe** (B.S., 1949) is President of Merit Oil Company in San Angelo, Texas, and writes, "Not doing much in the oil business (who is?). Spending most of my time remodeling and restoring my old house."

**Cathy (Stallings) Rashin** (B.S., 1979) is the owner/herbalist of Earth Current Garden in Red Rock, Texas, and writes, "In December 1998, after $16^{1}/_{2}$ years, I left my job at the Texas Natural Resource Conservation Commission, where I was a project manager, to pursue my new career as an herbalist. The natural world has always held my interest; now it's the plants instead of the rocks. I've been studying the use of herbs as medicine the past six years."

*Field geology course in the summer of 1941. Pictured is Harry Phillips. Photo provided by Edward R. Baird.*

**Kirk Rexrode** (B.S., 1984) lives in San Diego, California, and writes, "I've been out discovering the rest of the world for the best part of this year but still maintain a house in San Diego."

**James V. (Jim) Richards** (B.S., 1956) is a consultant with Genesis Producing Co. in Houston, Texas, and writes, "Still exploring in the Gulf Coast and in our Jurassic Basin Rim Trend. Keeping up with UT football and still playing my sax with The University of Texas Longhorn Alumni Band." E-mail address is jr1934@aol.com.

**James W. (Jim) Richards** (B.S., 1958) resides in St. Helena, California, is self-employed, and writes, "With wine selling for 45 times the price of oil, it is hard to get excited about oil and gas prospects. I still like to do some geology between grape harvest and spring. If you're in the Napa Valley, give us a call." Web site address is www.palomawine@aol.com.

**Wade C. Ridley** (B.S., 1953, M.A., 1955), e-mail address 73065.10@compuserve, is President of Ridley Oil Corporation in Tyler, Texas, and writes, "Lost my former boss, friend, and fellow alum, J. L. Patton, age 90, this year. UT alums in Tyler still plodding along. One good thing about lousy oil prices, it gave me time to go to Austin and watch Ricky run–what a fun football season it was!"

**Wayne Ritcheson** (B.S., 1991) resides in Plano, Texas, and is a geophysicist with DeGolyer and MacNaughton in Dallas, Texas. E-mail address is writcheson@demac.com.

**Jess P. Roach** (B.A., 1941) is retired in Austin, Texas, and writes, "No news is good news, I suppose. My health is good. Work out three times a week at health club. In addition to the geological department being winners, so are the Longhorn football and basketball teams."

**Robert C. Roback** (Ph.D., 1993) writes, "The newest Roback, Benjamin Robert, was born Sunday, March 28, 1999, at 3:05 a.m. He weighed in at 6 pounds 10 ounces and was 20 inches long. Becky (M.A., 1990) and baby are both doing fine. I am with Los Alamos National Laboratory in Los Alamos, New Mexico, and have accepted a staff member position at LANL to begin May 3. The position is with CST-7 (the same group I'm with now). The position is a joint position with the actinide transport (environmental geochemistry) group and mass spectrometry group. I will continue to use isotope geochemistry to address diverse issues, but the focus will be on environmental problems. Naturally, I'm quite excited about the position. Ben, Joey, Becky, and I are all fine, the latter two a bit sleep deprived."

**Clem H. Roberts** (B.S., 1949) lives in Midland, Texas, and is semi-retired. He writes, "I lost my wife, Ann, to cancer on March 2, 1998. My black lab and I carry on. My children from many miles away helped a great deal. Oil and gas business lousy again. Shades of 1986."

**Julie A. Roberts** (B.S., 1995) is a geologist with Parsons Engineering Science, Inc. in Austin, Texas. E-mail address is julie_roberts@parsons.com.

**Jon Alan Robin** (B.S., 1979) lives in The Woodlands, Texas.

**Ed Robinson** (B.S., 1950), who resides in Carlsbad, California, writes, "Retired in 1986 after 36 years working for Sun, Tenneco, Martoca, Pure, and Unocal. Golf, genealogy, and my computer keep me busy, along with my 6 children and 11 grandchildren."

**Ron S. Robinson** (B.S., 1958), e-mail address rbrealty@ipa.net, is a partner with Robinson-Buchanan Real Estate in El Dorado, Arizona, and writes, "Surface and subsurface evaluation is alive and well. From fresh-water exploration (Sparta Sand) to saltwater in the Smackover Lime for bromine, with oil reservoir evaluation in between. God's creation is still one great mystery. So, too, is the wonder of seven beautiful grandchildren."

**C. W. (Bill) Rogers** (B.S., 1961, M.A., 1963) is a geologist and manager in Lafayette, Louisiana, and writes, "Our new company, Rozel Energy, is exploring the shallow water Gulf. Having some success and lots of fun." E-mail address is cwrog@aol.com.

**Willie J. Roper** (B.S., 1948) is retired in Kingman, Arizona.

**Lucy O. Ross** (B.S., 1950) is President of Delta Royalty Company, Inc., and LMA Royalties, Ltd. in Colorado Springs, Colorado.

**Oliver (Tres) Ross** (B.S., 1975) flies as Captain out of Fort Worth, Texas, and writes, "Still flying for American Airlines, but I miss field geology trips! An unexpected hospital stay ruined my plans for AAPG San Antonio. I expect to fully recover." E-mail address is tres3ross@aol.com.

**Robert Brooks Ross** (B.S., 1950) is retired in New Ulm, Texas, and writes, "Velma and I are enjoying the quiet life of this little German village 50 miles northwest of Houston."

**Rollins M. Roth** (B.S., 1958) is Production Superintendent in Breckenridge, Texas, and writes, "This year is my fortieth year in the oil patch, and it grieves me to see so much talent being forced out of the work force by low oil prices."

**James A. Rowell, Jr.** (B.S., 1954) is partner/owner of PAR Minerals Corp. located in Shreveport, Louisiana. He writes, "Wife Pauline is doing fine. PAR is staying busy drilling for gas in Louisiana, Texas, and Mississippi. Plan to spend more time at the Four Square Ranch in Edwards County, Texas."

**Philip Rowell** (Ph.D., 1993) is Senior Geophysicist with Marathon Oil Company in Houston, Texas, with e-mail address of prowell@marathonoil.com.

**Peter D. Rowley** (Ph.D., 1968) resides in New Harmony, Utah, and is a geologist with the U. S. Geological Survey in Las Vegas, Nevada. His e-mail address is prowley@usgs.gov. He writes, "Various forms of good news: I married Dawna Ferris, we built a house in New Harmony, Utah (between Cedar City and St. George). I am transferring my U.S.G.S. office to Cedar City, and I got out of management and returned to science."

**Christie Morgan Rushing** (B.A., 1994) lives in Pensacola, Florida, and is a pilot in the United States Navy.

**Jimmie Norton Russell** (B.A., 1952, M.A., 1954) lives in Austin, Texas, is an Educational Assistant III with GOALS Learning Center of the Round Rock Independent School District, and writes, "Continuing in special education, teaching emotionally disturbed junior high and high school students. Yes, it's a challenge but also very rewarding (some days!)."

**Carolyn Rutland** (M.A., 1979) is an environmental engineer with the City of Kalamazoo Engineering Division, in Kalamazoo, Michigan, and writes, "I still manage environmental projects for the City of Kalamazoo. I knit multi-colored socks, just bought myself a new sewing machine, and am going to paint my kitchen cupboards this summer."

**Floyd F. Sabins** (B.S., 1952) is President of Remote Sensing Enterprises, Inc. in Fullerton, California, and writes, "I presented several well-attended workshops on resource exploration using remote sensing. Mineral exploration is at a low ebb because of low metal prices. Our strategy is to develop an inventory of prospects that will be marketable during the next up-turn." E-mail address is ffsabins@usa.net.

**Philip K. Sampler** (B.S., 1951) is President of Sampler Oil & Gas, Inc. in Richardson, Texas, and writes, "With oil prices so depressed, it's hard to make a go of it. I'm about to have hip replacement surgery, so I can get back in the field. This is almost like starting over!!"

**Jack S. Sanders** (B.S., 1957) is retired in Dallas, Texas, and writes, "Still vertical (not horizontal) and enjoying travel overseas and domestic. Time remains precious, but that's okay."

**Charles E. Sandidge** (B.S., 1978) is President of Market Oil & Gas, L.L.C. in Dallas, Texas, URL marketoil@netscape.net. E-mail address is cesandidge@worldnet.att.net.

**Vickey P. Sare** (M.A., 1981) is with Chevron Overseas Petroleum, Inc. in San Ramon, California, as a senior geologist, lives in Danville, California, and writes, "We are enjoying life in the Bay Area. Visits to the Exploratorium, the Monterrey Bay Aquarium, and Yosemite top the list! Robby is a happy third grader now, active in cub scouts and swim team. My work at Chevron is very interesting, especially the 3-D visualization aspect of seismic interpretation. I look forward to seeing fellow UT alums at the Y2K AAPG meeting in New Orleans, Louisiana, where I will chair a session on Oil & Gas Exploration and Development in West Africa (Angola)."

**Steffen Saustrup** (B.S., 1988) is a Research Scientist Associate V at The University of Texas at Austin Institute for Geophysics.

**Traugott Scheytt** (exchange student from University of Wurzburg, 1986-1987) is now Associate Professor at the Technical University of Berlin. Traugott gave one of the keynote scientific presentations at last fall's joint American Institute of Hydrology/International Association of Hydrologists Conference in Las Vegas, Nevada, entitled "Gambling with Groundwater." His talk was entitled "Occurrence and Behavior of Drugs in Groundwater."

**Judith A. Schiebout** (B.A., 1968, M.A., 1970, Ph.D., 1973) is the Associate Curator with the Museum of Natural Science in Baton Rouge, Louisiana, and writes, "Still digging fossils from the Miocene of western Louisiana." E-mail address is schiebout@geol.lsu.edu.

**Charles M. (Charlie) Schlaudt** (M.A., 1960) lives in Ashland, Kentucky, e-mail address schlaudt@gte.net, and writes, "Retired from Shell in Houston, Texas, in June 1997 after 32+ years. Living in 150-year-old house–lots of golf, travel, and volunteer work."

**George W. Schneider, Jr.** (B.S., 1958), a member of the Geology Foundation Advisory Council, is an independent geologist in Metairie, Louisiana. He writes, "Moved to the north shore of Lake Pontchartrain last year. On the Tchefuncta River!! I have been involved in a new (non-oil) business for five years, and we are enjoying the challenge and success of the business. Excited about the Advisory Council and upcoming 2000!"

**Joel D. Schneyer** (M.A., 1984) is a partner with Mercantile Resources Finance, Inc. in Parker, Colorado, and writes, "Although 1998 was a terrible year for commodities, early signs in 1999 suggest a rebound. If you have a natural resource project that needs project finance, give a call." E-mail address is MercResFin@compuserve.com.

**Frederick E. Schultz** (B.S., 1947) is retired in Ojai, California, and writes, "Still enjoying golf."

**Rubin A. Schultz, Jr.** (B.S., 1961) is Assistant District Maintenance Manager with the Texas Department of Transportation in Corpus Christi, Texas, and writes, "Another year and all is well here in Corpus Christi. Daughter gave us a granddaughter last July. Family keeps growing! I'll make 35 years with the Texas Department of Transportation this summer. And, already have my tickets for a May visit to Maui, Hawaii."

**Christy M. Schweikhardt** (B.S., 1983) lives in Houston, Texas, with a personal e-mail address of cmschweik@aol.com, and works as an attorney at Fulbright &

Jaworski LLP. Work e-mail address is Cschweikhardt@fulbright.com and writes, "The big news for 1999 is that I am getting married in May on Memorial Day weekend. Ronnie and I will honeymoon in a geologist's paradise–Yellowstone National Park. We are looking forward to some serious downtime in the place that sparked my interest in geology when I was 10 years old!"

**Eugene Patrick Scott** (B.S., 1957) is "Still a petroleum consulting geologist in Corpus Christi, Texas."

**John E. Seale** (B.S., 1941) is retired in Houston, Texas, and writes, "Nothing really new. I stay busy on home projects while time goes flying by, faster each year."

**Kenneth O. Seewald** (Ph.D., 1964) is President of National Fuel Corporation in Denver, Colorado, and writes, "Mary and I are enjoying our second tour of duty in Denver. Arrived fall of 1998 and are busy visiting our old friends and making new ones in Denver after a 15-year detour to San Antonio and Houston. We miss Texas, but enjoy the new challenges and opportunities of exploring for and development of new natural gas reserves in the Rockies."

**Robert T. Sellars, Jr.** (B.A., 1957) is a consultant in Denver, Colorado, e-mail address rtsell@aol.com, and writes, "Will finish my three years on the D.P.A. Executive Committee in July. Have enjoyed my association with UT grads, Gene Mear, Pete Rose, Royce Carr, and Dan Smith."

**Holmes A. Semken, Jr.** (B.A., 1958, M.A., 1958) is a Professor of Geology in the Department of Geology at the University of Iowa in Iowa City, Iowa, and writes, "Elaine and I took a coastal ferry in Norway last June and had three good days for the midnight sun; next it's the northern lights. I participated in four conferences in 1998. The best was the Lundelius Symposium at UT."

**Greg Sengelmann** (B.S., 1982) lives in Rosanky, Texas, and is a geologist with Applied Earth Sciences, Inc. in San Antonio, Texas.

**Sachin Shah** (B.S., 1998), e-mail address Sachin_Shah@radian.com, is an Associate Geologist at Radian International in Houston, Texas, and writes, "I am learning a lot about hydrogeology and water resource management (Senate Bill #1). Consulting has been an excellent experience for me."

**William W. (Bill) Sharp** (B.S., 1950) is an investor/consultant geologist in Dallas, Texas, and writes, "Building a second home on 'Red Bud Ranch' in Grayson County. Enjoyed 'Tejas' annual meeting in Dallas. Returned to Lafayette, Louisiana, for 'Red' Dumesnil's March retirement party as ex-President of Guaranty Bank. Also visited with Calvin Thomas, retired Chief Geologist of the Louisiana Office of Conservation, before whom I appeared for 16 years as 'expert witness.' Still listed in *Who's Who in America, Who's Who in Science and Engineering*, etc."

**Stephen L. Shaw** (B.S., 1971, M.A., 1974) is Senior Geological Advisor with Burlington Resources in Midland, Texas, and writes, "Nancy and I have gotten both our kids through college and now are looking forward to becoming grandparents in October! Our best to everyone." E-mail address is sshaw@br-inc.com.

**F. Carlton Sheffield** (B.S., 1963) writes, "Retired in 1998. Still living in The Woodlands, Texas, and playing golf as much as I can. Doing a lot of traveling in our motor home. Seeing a great amount of geology in this great country of ours."

**William T. Sherman** (B.S., 1951) is a consultant for Fairdawn Enterprises, Inc. in Houston, Texas.

**J. David Shetler, II** (B.S., 1985) lives in Mexico and is President of Grupo Prisma.

**Elgean C. Shield** (B.S., 1953) is President of a company in Coldspring, Texas, and writes, "After working in oil and gas exploration for 50 years, have finally decided to slow down and retire to Lake Livingston north of Houston, and enjoy life with several grandchildren."

**Mark S. Shield** (B.S., 1988), e-mail address of mshield@lgc.com, is Senior Test Coordinator in Austin, Texas, and writes, "Still with Landmark Graphics developing test processes for NT versions of our UNIX geological products."

**Bren Sidereas** (B.S., 1973) lives in Rockwall, Texas, and is a staff geologist with Coho Energy in Dallas, Texas (e-mail address, bsidereas@cohoenergy.com, and Internet: SIDRUS@aol.com). Bren writes, "Coho's reserve base significantly eroded away because of low oil prices. We're now 'overborrowed.' Stock has plunged–options worth nothing. Continue to hang on by a thread (banks will work with us), but for how long? Wife, Carolyn, back in graduate school. Son, Steven, working and attending Blinn Jr. College. Daughter, Nicole, at Texas A&M dating Aggies? Someone please save me. Still live for UT sports. Looks like we're on the right track here."

**Leila Eyoub Sigmon** (B.A., 1945), retired in Midland, Texas, writes, "Spend time with horses and riding, writing, and travelling–just returned from Barcelona, Catalan, and Santiago de Compostella, Spain."

**Clint Simmons** (B.A., 1982) is a supervisor in the Remediation Division of the Texas Natural Resource Conservation Commission in Austin, Texas. E-mail address is: csimmons@tnrcc.state.tx.us.

**Samuel J. Sims** (M.A., 1957), e-mail address of s768@aol.com, is a consulting geologist in Bethlehem, Pennsylvania, and writes, "My only news of note, for those interested, is that I attained Medicare eligibility this year. Otherwise, I continue to be well-occupied in my consulting work."

**William P. Slater** (B.A., 1950) is an independent consultant in Canyon Lake, Texas, and writes, "Enjoying the wonderful economy and still looking for oil and gas in West Texas."

**Marriott Wieckhoff Smart** (B.S., 1957), e-mail address of marriott@ix.netcom.com, is retired in Littleton, Colorado, and writes, "Now that both John and I are retired, we have plans to travel even more than in years past. Most of our trips are short, no longer than three weeks. In early March, we toured West Texas, including the Davis Mountains and Big Bend National Park. It was fun to go back to the region where I took Geology 660(?) in 1956. We even drove by the area near Marathon where our class worked. The desert hasn't changed but at least it wasn't so hot, and there weren't any rattlesnakes."

**Tommy T. Smiley** (B.S., 1951) is retired in San Antonio, Texas, and writes, "Still doing taxes and traveling. Went through the Panama Canal last year, and we are going to Alaska in June. Hello to everyone."

**A. Richard (Dick) Smith** (B.S., 1964) lives in Alvarado, Texas, works as Groundwater Services Group Manager at EMCON, in Fort Worth, Texas, and writes, "Our nine acres on the Woodbine have all the wonders of nature and more chores than daylight will allow. Hydrogeology of landfills continues to occupy my workdays. Ann continues to look for just the right horse." E-mail address is dsmith@emconinc.com.

**Charles Smith** (B.S., 1978) is Senior Geologist at Duke Engineering and Services in Austin, Texas, with an e-mail address of cdsmith@dukeengineering.com.

**Dan L. Smith** (B.S., 1958), Vice-President with New Ventures Meridian Resources Corp. in Houston, Texas, writes, "Still very active doing voluntary work for AAPG, SIPES, and the Houston Geological Society," and has an e-mail address of dsmith@tmrx.com.

**Edwin L. Smith** (B.S., 1951) is an independent geologist in Wichita Falls, Texas, and writes, "I am enjoying a relaxed schedule, as well as my five grandchildren. Does make one realize we are getting a bit older."

**Harry L. Smith** (B.S., 1951, M.A., 1956) is retired in Boerne, Texas, and writes, "Not much change from last year. Keep busy playing golf and being home handyman. My daughter is making a name for herself in the journalistic field. Her byline is Sheryl Smith-Rodgers."

**J. T. Smith** (B.S., 1950, M.A., 1956) is retired from the Sun Oil Company, living in Fredericksburg, Texas, and writes, "Still enjoying retirement in the beautiful Texas Hill Country."

**Paul K. Smith** (B.S., 1984) is an exercise physiologist and hatha yoga instructor at North Austin Medical Center in Austin, Texas, with an e-mail address of PKSmith@compuserve.com.

**Traci Trauba Smith** (B.S., 1985) is an office administrator in Lake Jackson, Texas, e-mail address dougsmith@computron.net.

**Frederick C. Smyth** (B.S., 1947) is retired in Dallas, Texas.

**Jairo Marcondes de Souza** (M.A., 1982) resides in Brazil.

**Stephen W. Speer** (M.S., 1983) is general partner at Speerex Limited Partnership in Roswell, New Mexico, and writes, "All is well with the Speer household. We have truly been blessed. As far as the oil patch goes, I prefer to see a half full cup. Still staying busy working on numerous projects all over the place. Visited Austin this spring. You have grown considerably." E-mail is speerex@dfn.com.

**Fred Spindle** (B.S., 1949) is retired in Sugar Land, Texas, and writes, "We soldier on! This difficulty in recalling whatever we are trying to recall has its good points. Now we can hide our own Easter eggs! Given our age and weight, we are in pretty good shape and trying to enjoy whatever comes down the pike."

**Bill St. John** (B.S., 1958, M.A., 1960, Ph.D., 1965) is manager of New Ventures of Vanco Energy Company in Houston, Texas, has an e-mail address of bstjohn455@aol.com, and writes, "Vanco Energy concentrating on West Africa Deep Water (1,000 – 10,000 feet). New. Different. Exciting. Have two blocks offshore Gabon; one off Morocco. Negotiating for five in other West African countries at this time."

**Theodore Stanzel** (B.S., 1956), President of Victor Stanzel Company and President of the Stanzel Family Foundation in Schulenburg, Texas, writes, "In business to provide airplane toys for the air-minded, young and old. Come to Schulenburg to view the museum which has on exhibit 30 static displays of the history of model aircraft designed by Victor and Joe Stanzel."

**Colleen P. Stapleton** (M.A., 1991), a Ph.D. student at the Department of Geology at the University of Georgia in Athens, Georgia, writes, "After graduating from UT, I moved to London and worked in Her Majesty's Civil Service as a geologist at the British Museum (the one with the mummies). In January 1999, I started at UGA's geoarchaeology program to continue my research on reconstructing ancient Egyptian glassmaking technology. Igneous petrology has many applications!" E-mail address is cstapleton@gly.uga.edu.

**Mike Starcher** (B.A., 1988) is unemployed and writes, "Got laid off from British Gas in January. My visa runs out in August, so I hope to return to the States and finish my Master's at Baylor with Professor Karen Carter. Honk 'em Horns!"

**Jean Stark** (B.A., 1940) is retired in College Station, Texas.

**Walter W. Stein** (B.S., 1952, M.S., 1952) is an independent oil producer in Dallas, Texas.

**Burgess Stengl** (B.S., 1985) is a geologist with the Texas Natural Resource Conservation Commission. He writes, "I am still working in municipal solid waste permits at the TNRCC, and Angela is still teaching second grade. Our son, Kyle, was born on August 2, 1998, the day after Shara turned 18 and moved out to go to UT Austin. Susan is doing great in gymnastics and will be in the seventh grade. They say having a baby will keep you young. However, I often question that saying! Life is very interesting with a sophomore in college, a near teenager, and one learning how to crawl. I'll let you know how things are going next year if we survive."

**Tom Stidham** (B.S., 1995) published a short paper in the November 5, 1998, issue of *Nature* describing a lower jaw fragment from a possible Late Cretaceous parrot, the oldest occurrence of this avian group known from the fossil record. Tom is now a Ph.D. student at the University of California, Berkeley.

**Jim Stimac** (M.A., 1983) is Geoscience Coordinator with Geothermal Energy in the Philippines and writes, "We moved to the Philippines in May of 1998 and welcomed Cameron into the world in September. He seems to be enjoying life in Asia so far, despite the economic downturn. Geothermal continues to struggle along, despite low energy demands and prices. The volcanoes and coral reefs are fun–come visit." E-mail address is jstimac@1_manila.com.ph.

**William T. Stokes** (B.S., 1950) is President of Stex Energy Company in Dallas, Texas, and writes, "Another year in the oil patch. It has been great to see Bill Lacy and Jack Frizzell. Fifi and I have a new grandchild, Emily Ann Stokes. Brad is the father, and he is Regional Manager and Geologist for his firm in Corpus Christi." Bill is a member of the Geology Foundation Advisory Council.

**Mike Stowbridge** (B.S., 1982) lives in Abilene, Texas, is a well-site geologist/mudlogger with Geosite, Inc. in San Angelo, Texas, and writes, "I continue to serve the independent oil producers in West Texas. Constant worry over oil prices characterizes most of us here."

**Robert E. Stowers** (B.S., 1961) is an international petroleum exploration consultant in Houston, Texas.

**Robert E. Stowers, II** (B.A., 1986) is Environmental Project Manager with Mustang Engineers and writes, "New job opportunity presents challenge of starting an environmental services group for Mustang Engineers. I'm proud to say I now have my son 'bleeding orange.' Look forward to those fall weekends attending football games with my dad (B.S., 1961), son, and brother. Cameron (son) wants to be the first UT ice hockey player!"

**Michael W. Strickler** (B.S., 1978) is Senior Vice-President of Exploration and Land with Mariner Energy, Inc., in Houston, Texas. E-mail address is mstrickler@mariner_energy.com.

**Hal Stubblefield** (B.A., 1954) retired in 1998 and lives in Kingwood, Texas. He writes, "Wife Barbara and I are still going strong. Gardening, golfing, traveling, and seven grandkids keep us busy."

**Martin Stupel** (B.S., 1988) is Manager of Program Development for Western Geophysical in Houston, Texas, e-mail address is martin.stupel@westgeo.com, and writes, "Enjoying bumping into alumni in all areas of the world. Most recent endeavor has been revising course material for SEG class—*Planning and Executing a Marine 3-D Survey*."

**Colin D. Sumrall** (M.A., 1991, Ph.D., 1996) informs us that he is Curator of Invertebrate Paleontology at Cincinnati Museum Center in Cincinnati, Ohio. E-mail address is Colin.Sumrall@UC.EDU.

**W. C. (Dub) Swadley** (M.A., 1952) is retired in Littleton, Colorado, and writes, "No news, just retired."

**Cindy Swinbank** (B.S., 1971) and **Tom Swinbank** (B.S., 1971) reside in Georgetown, Texas. Cindy is a science teacher, and Tom is a consulting geologist. They write, "Tom is working for Winn Exploration in Corpus Christi and Welder-Heger Energy in San Antonio. Kids: Chris is moving to La Grange to start his own business. Sam started Viridion Engineering in Austin. Hannah is a junior in Interior Design in Austin at UT. Claire is All-WAC playing basketball at San Diego State. Joe is going into the ninth grade." Their e-mail address is swinbankc@georgetown.txed.net.

**James B. Tartt** (B.S., 1948) is retired in Houston, Texas, and writes, "Best wishes to all UT alumni."

**George W. Taylor** (B.A., 1949) is a retired Exxon geologist-rancher-pilot of WWII aircraft.

**Dick Teel** (B.S., 1941) is a geological systems consultant in Houston, Texas, e-mail address dick.teel@ihsenergy.com, and writes, "Still working for P.I., now IHS Energy. Still hunt and photo in Africa each year. Going to Namibia in July, will hunt and also photo in Etosha game park."

**Eilene Theilig** (B.S., 1976) is Project Element Manager with the Jet Propulsion Laboratory in Pasadena, California, and writes, "It has been an exciting ten years and the Galileo Spacecraft is still flying. I now manage the Spacecraft and Sequence Team,

which is responsible for spacecraft operations and building the commands telling it what to do. Even though I vicariously get to tour the Jupiter system, I miss the field trips to Big Bend."

**George L. Thomas** (M.A., 1960) is retired in San Antonio, Texas, and writes, "Well, I've finally retired (November 30, 1998), and I already know that it doesn't suit me at all. So, I'm looking for some other employment to keep me busy. Eloise is well and still working. Three children and five grandchildren are also well. We are building a house in the country, near Bergheim, Texas. Should move in July or August 1999." E-mail address is gthomao@ibm.net.

**Karen (Bergeron) Thompson** (B.S., 1992) is an environmental specialist with the Department of Environmental Quality in Helena, Montana, with an e-mail address of karent@state.mt.us.

**M. Gary Thompson** (B.S., 1975, M.A., 1977) resides in The Woodlands, Texas, is Venture Operations Advisor with Exxon Exploration Co. in Houston, Texas, and writes, "Presently involved with operations in a dozen venture offices in overseas locations. The work is challenging enough without the added civil wars, coups, diseases, etc."

**Bert C. Timm** (M.A., 1941) is retired and lives in Plano, Texas, and writes, "We enjoyed our cruise to Canada so much last year that we plan to go to Quebec again this fall for foliage and fabulous 'New France.' Tectonic geology from a St. Lawrence seaway westbound cruise ship, Laurentian Pre-Cambrian, to the north, Appalachian carbonates to the south, following a continental subduction fault. The late glacier gouged out the schist in the fault zone and formed the valley. Myrna enjoyed the fall foliage, whales, Quebec, and the Montreal underground shopping because it rained that day."

**William E. Tipton** (B.S., 1949, M.A., 1951) is a retired artist, residing in Ridgeway, Colorado. He writes, "Julie and I are celebrating our 50th this year with a cruise/tour to Alaska! Otherwise, I spend most of my time in front of the easel slinging the brush!" E-mail is tipton@montrose.net.

**Douglas N. Toepperwein** (B.S., 1974) lives Fair Oaks, Texas, and is a geologist with Sage Energy Company in San Antonio, Texas. E-mail address is geosage@tooeasy.net.

**Elsworth (El) Tonn** (B.S., 1955) is President/CEO of KAMEL Corporation in Houston, Texas.

**Everette J. Travis** (M.A., 1951) is retired and, "Still living on Lake Buchanan in Llano County. Lake is down, but fishing has been great! Experienced the geology of Alaska and western Canada last summer."

**Lloyd R. Travis, Jr.** (B.A., 1948) is a consultant in Houston, Texas, and writes, "Continuing my consultant work to two oil companies. Working with 3-D seismic continues to be exciting. Will be looking forward to the next *Newsletter*."

**Robert F. Travis** (B.A., 1957) is retired in Corpus Christi, Texas, and, "Still working hard at not working."

**Jennifer Winkler Truax** (B.S., 1992), e-mail: cjtruax@flash.net, writes from Rowlett, Texas, "After leaving ARCO in January 1999, I decided to change career paths and hang up the old hiking boots and hardhats. I am currently working on my Oracle Database Administration Certifications at Southern Methodist University. I will be finishing with the certifications in June 1999."

**Arthur J. (Art) Tschoepe** (B.S., 1951) is an independent geologist and oil operator in Leakey, Texas, and writes, "Still working and giving my oil and gas away and enjoying my wonderful family."

**James J. (Jeff) Tucker** (B.S., 1948) is retired in Jackson, Mississippi.

**John D. Tuohy** (B.S., 1939), retired in Canyon Lake, Texas, writes us, "Still enjoying retirement on this Texas Hill Country site and still making our annual trek to Ireland–a great place. The people, the scenery, the pubs just can't be beat. Kids and grandkids are doing very well. On April 2, Evelyn and I celebrated our 50th wedding anniversary. It's a great life."

**Neil L. Turner** (Ph.D., 1970), a petroleum consultant in Fulshear, Texas, writes, "1998 was my second year working on my own on carbonate fields and exploration. I participated in the Amoco Cotton Valley reef play in East Texas in the first half of the year. Continuing field studies."

**M. LeeRoy Tydlaska** (B.A., 1949, M.A., 1951) is retired from Amoco and writes us from Metairie, Louisiana, "No news at this time. I have decided to stay retired, even as the petroleum industry seems on the way to another recovery. I had to miss the mock Amoco funeral, but the casket burned brightly, I am told."

**Grace Nell Tyner** (M.A., 1979, Ph.D., 1984) is with the Texas Natural Resource Conservation Commission (TNRCC), lives in Austin, Texas, and writes, "Dennis and I moved to Houston, Texas, in 1993 when I was offered a position as a group leader for an environmental consulting firm. Then in 1996, I became a Project Manager in the Superfund Cleanup Section of the TNRCC, and we made it back to Austin. I have just moved into the Corrective Action Section of the TNRCC as a Senior Project Manager, and I'm looking forward to the new challenges that will bring. Dennis and I just finished having a house built in northwest Austin. Ask me if I'll ever do that again! I hope to catch up with old friends now that the house is finished, and life should return to normal."

**Robert Chan Tysor** (B.A., 1952) is a consultant to CICO Oil & Gas Company in Houston, Texas, and resides in Sugar Land, Texas.

**James R. Underwood, Jr.** (M.A., 1956, Ph.D., 1962) lives in Austin, Texas. He is Professor Emeritus at Kansas State University and Visiting Scholar at The University of Texas at Austin. He may be e-mailed at jrujr@flash.net. He informs us, "Margaret Ann and I are enjoying our new home in Austin and new and old friends. What an interesting community in which to live, a bit different from the one we left in 1962 to go to Baghdad with Dr. and Mrs. Bullard and others of the UT program there. Our major news since last year is a new son-in-law and a new granddaughter. Greetings to all."

**Paulus H. Van Der Ven** (M.A., 1983) writes, "After four years in London, acting as the Exploration Manager for PETROBRAS UK in the North Sea, I am now in the same function as the head for exploration for PETROBRAS in the Espirito Santo-Mucuri Basin, southeastern Brazil. After a lot of work in seismic and drilling, we are finding a lot of oil and gas. Deep waters are coming next, probably with a lot of excitement, like our neighboring Campos Basin. Now that Brazil has opened up for exploration by foreign companies, I have already met some ex-UT alumni, which is a great pleasure."

**James B. Vanderhill** (Ph.D., 1986) and **Amy Laura Vanderhill** (B.S., 1983) reside in Houston, Texas. James is a staff geologist with Mobil Exploration & Producing U.S. Inc. in The Woodlands, Texas, e-mail address Jim_B_Vanderhill@email.mobil.com. Amy is a district geologist with Pogo Producing Company in Houston, Texas, e-mail address avander@texas.net. They write, "We are still in Houston, coping with decreased budgets and increased uncertainty. Jim is working South Louisiana onshore for Mobil and Amy is working South Texas onshore for Pogo. After lots of activity last year, things have slowed down considerably. By the time you read this, who knows what our situation will be? But in any case, we are hoping to stay in the Houston area for the foreseeable future. The girls (Ceili, Shannon, and Meagan) are 10, 8, and almost 6, and will be starting fifth, third, and first grades in the fall. They are looking forward to a great summer of fishing, since we didn't have any hard freezes this winter."

**Tracy Vaught** (B.S., 1980) is owner of Backstreet Café, Prego in Houston, Texas, and writes, "Daughter, Sophia Elizabeth, is now 2. Looking forward to our second visit to cook at the James Beard House in New York in August."

**Van N. Veenstra** (B.S., 1974) is Geological Services Manager with Exxon Exploration Company in Houston, Texas, and writes, "In spite of $12.00 oil, Exxon Exploration continues to be very active worldwide, with recent large discoveries offshore West Africa, and ongoing operations in Trinidad, Peru,

Sakhalin, the Caspian Sea, and Kuwait, among others. Anxiously awaiting 1) the price of oil to go back up, and 2) the pending Mobil merger. My wife (Cheryl) and two teenagers (Adam and Eric) continue to keep life quite interesting."

**Harry A. Vest** (M.A., 1959) is retired in Houston, Texas, with an e-mail address of harryvest@aol.com, and writes, "What a football season we had last year (1998). Didn't see many of my old classmates but had one hell-of-a-good-time, especially at the UT-OU game. Are they having a 40th reunion this year for the Class of 1959?"

**R. B. Vickers** (B.S., 1947) writes, "Retired in Abilene, Texas. Two daughters, one teaching in Ellensburg, Washington, the other retiring from sales of advertising, living in Round Rock, Texas. Two grandsons, both married, both working. Married now 55 years to the same fine wife. Can it be?" E-mail address is Unicorn@Biltstreet.com.

**J. Mac Vilas** (B.S., 1984) is a technical specialist with the Texas Natural Resource Conservation Commission, in Austin, Texas. E-mail address is mvilas@tnrcc.state.tx.us.

**William Vrana** (B.A., 1939) is retired in Corpus Christi, Texas, and writes, "No exciting news to report, just reporting for the roll call. Still make most of the local geological society luncheons to keep up-to-date with newly developing technology and to visit with old friends."

**Martin James Wachel, Jr.** (B.S., 1956) is retired in Laird Hill, Texas, and "Enjoying retirement and *Newsletter*. Presently serving as School Board Trustee for my old high school, which I attended (Leverett's Chapel High School)."

**A. H. Wadsworth, Jr.** (B.S., 1941, M.A., 1941) is an independent geologist in Houston, Texas, and writes, "After 57 years as a practicing geologist, I still go to work every day because I enjoy it."

**Tommy Waggoner** (B.A., 1957) is C.O.B. of Waggoner Barbados, Ltd. and lives in Spicewood, Texas. He writes, "Still trying to learn how to retire. Stay active on our Barbados development project. My wife and I love living on Lake Travis and enjoying UT sports events." His e-mail address is waggon@tstar.net.

**Hershel Walker** (B.S., 1950) is in Corpus Christi, Texas, and writes, "Retired since July 1996. Have enjoyed hunting, fishing, golf, and travel since then. Thanks for the *Newsletter*; helps to keep up with old school mates."

**Joe Dudgeon Walker, Jr.** (B.S., 1951, M.A., 1954) is "Retired but still keep up a few Wilcox maps." He resides in Houston, Texas, and further writes, "Things have stayed much the same, which is very good these days with so many of my contemporaries having passed on. Good health for me, my wife, three children, and nine grandchildren! I still appreciate the good work and news of the *Newsletter*. Geology is still very interesting."

**David A. Wallace** (B.S., 1986) lives in Austin, Texas, will be starting with the Executive Development Program (EDGE) with U.S. West, Inc. in Denver, Colorado, and lets us know, "Just finished the two-year UT M.B.A. program and will be starting my new high-tech life in Denver. Was accepted into an executive development program, which will provide a good overview of the telecom industry during the first two years. Going into the data side of the business, where I will be marketing Intranet and Internet solutions to large business and government customers. If ever in Denver, please look me up, especially in ski season! I'll always have an open room." E-mail address is dawallace@mail.utexas.edu.

**F. B. Wallis** (B.S., 1941), a geophysicist retired from Texaco, Inc., writes, "Retired, taking things easy, and living in Rosenberg, Texas, to be near my daughter, who is a geophysicist employed by Texaco, Inc. Eldest son is a Methodist minister in Florida. Younger son is stock manager in New Orleans, Louisiana."

**Anne H. Walton** (M.A., 1986) lives in Granby, Massachusetts, is a Visiting Scientist at Pratt Museum of Natural History at Amherst College, and writes, "My son, Alexander, is almost 3 years old, and in May, I will be attending the International Conference on Neotropical Cenozoic Evolution in La Paz, Bolivia. Keep up the good work."

**Bernie Ward** (B.A., 1955) is a geologist in Tyler, Texas, and writes, "Look for the silver lining. West Texas intermediate crude climbing!"

**Bill Ward** (B.S., 1955, M.A., 1957) and **Kathy Ward** (B.S., 1957) reside in Autumn Glen, Texas, and write, "Kathy continues as Curriculum Specialist at Our Lady of the Lake University for a NASA grant for training middle-school teachers in earth and space science. Bill made 'last' trip to Mallorca; still going to Mexico with J. L. Wilson, and getting involved in Cibolo Nature Center." Their e-mail address is wcwkaw@aol.com.

**Dan L. Ward** (B.A., 1949, M.A., 1950) is retired in Grand Junction, Colorado.

**David A. Wark** (M.A., 1983, Ph.D., 1989) is a Research Associate Professor with Rensselaer Polytechnic Institute in Troy, New York, has an e-mail address of warkd@rpi.edu, and writes, "Having left Austin, Texas, over 10 years ago to accept a 'temporary,' soft-money position in upstate New York, I'm still here to this day. With a mortgage, wife Cris, and two delightful munchkins (aged 3 and almost 1), plus a vegetable garden with the requisite assortment of hot peppers, I seem to be settling in more every day. Still miss, however, Austin, the UT DOGS, and the good times had at the Posse East….."

**Ralph H. Warner** (M.A., 1961), retired in Kingwood, Texas, writes, "Everything much the same as last year. Will Y2K change anything? Probably not. See you next century."

**L. Coy Warren** (B.S., 1948) is semi-retired in Abilene, Texas, and writes, "My stepson (Greg King) and I still drill some oil wells each year. It's still fun after 50 years. Enjoyed reunion of class of 1947 and 1948."

**Leslie Leland Warren** (B.S., 1985) lives in Katy, Texas, is an E & P Workflow Consultant with Schlumberger GeoQuest in Houston, Texas, and writes, "It's hard to believe 14 years have passed since the 660 GeoDogs of 1985 said goodbye! I have been with Schlumberger for eight years now, and I'm still enjoying it. Scott and I stay busy keeping up with our 7-year-old sports enthusiast, Kyle–soccer, basketball, and baseball games on Saturdays, along with ski trips in the winter and camping in the spring and fall fill our plates. We had fun this New Year's Day at the Cotton Bowl cheering on our favorite team and our neighbor's son-Hook 'Em!" E-mail address is lwarren@houston.geoquest.slb.com.

**John Allen Watson** (B.S., 1956), retired from the Texas Natural Resource Conservation Commission, is a geologist and hydrologist with Creation Evidence Museum in Glen Rose, Texas, lives in Austin, Texas, and reports, "Creation Evidence Museum keeps on excavating about one human footprint (per forensic experts) for three tridactyl dinosaur tracks excavated in Cretaceous Glen Rose Limestone near Glen Rose, Texas. But 'mainstream,' elitist secular scientists, numbed by evolutionary theory, continue to make 'armchair' decisions as to what the footprints really are, or make no decision at all. Is there no one that will come dirty their hands, preferring evidence to speculation? We're getting reports of frozen dinosaur bones taken out of the Alaskan tundra. Later we may be examining these and asking appropriate questions concerning their indicated age: too young?"

**Gerald E. Weber** (M.A., 1968) is a self-employed consultant geologist and lecturer in Earth Sciences at the University of Southern California, and writes from Santa Cruz, "Still teaching summer field at UCSC and working as an expert witness. Trying to spend as much time as possible rafting, scuba diving, and drinking beer. Not bad for a dummy, huh?" E-mail address is jweber@earthsci.ucsc.edu.

**Nelson Webernick** (M.A., 1952) is a self-employed petroleum geologist in Midland, Texas.

**Chas Weiner** (B.A., 1948), e-mail chas@hic.net, is "Trying to retire" in Houston, Texas, and also writes, "Dry hole in southwest France. Discovery in Australia, drilling coalbed methane wells in Ordos Basin, China. Family health good. Thank God."

**Bonnie R. Weise** (B.S., 1974, M.S., 1979) is Senior Explorationist at Venus Exploration, Inc., in San Antonio, Texas. Her e-mail address is bweise@texas.net.

**Brian Wenzel** (B.S., 1997) is a geophysicist in Richmond, Texas. E-mail address is brianw@ensigngeo.com.

**Jim Westgate** (Ph.D., 1988), an Associate Professor of Geology in the Geology Department of Lamar University in Beaumont, Texas, writes, "I am the 1999-2000 President of the Texas Academy of Science and invite everyone to our Y2K meeting the first Friday of March 2000 at Texas A & M University in Kingsville." E-mail address is westgatejw@hal.lamar.edu.

**David J. White** (B.S., 1941) is retired. He writes, "My wife and I are getting old. That is, we have two young great-grandsons. Actually, physically, we are both very healthy, hale, and hearty."

**Hugh G. White, III** (B.S., 1952) is a retired geologist and college student in Midland, Texas, and writes us, "Becoming inured to retirement with my two new knees. Taking courses and accumulating knowledge at Midland College. New degrees in English, History, and Economics. An idle mind is the devil's workshop (I'm in the apprentice program). Marvelous *Newsletter*. Keep it up!" E-mail address is colwhite@iglobal.net.

**Jane Brite Dunkle White** (B.A., 1946) is a cattle rancher at the Brite Ranch in Marfa, Texas, and writes, "We're dry, need rain–cattle market terrible! One of you come find some oil, gas, gold, or silver for us. Please!"

**Leslie P. White** (B.S., 1956) is a consultant in Austin, Texas, e-mail leswhite@flash.net, and writes, "Dianne and I continue to enjoy life in Austin. Thanks for the *Newsletter* that keeps us all together."

**Steve White** (B.S., 1978) reports, "Still enjoying consulting for the oil business in Tyler, Texas."

**Fred L. Whitney** (B.S., 1943) is retired in Kerrville, Texas, and writes, "Greetings to all friends, old and new. Write if you wish. I promise to reply."

**Jim Whitten** (B.S., 1956) is a self-employed petroleum geologist in Midland, Texas, and writes, "I'm still prospecting for gas in Midland."

**Frederick W. Wiegand, Jr.** (B.S., 1969) is a substitute teacher with an e-mail address of fredww@webtv.net in Lockhart, Texas, and writes,"Family is okay."

**Warren James Wiemann** (B.S., 1998) lives in Austin, Texas, and is a field geophysicist with Western Geophysical in Houston, Texas. E-mail address is warren.wiemann@waii.com.

*Mark Norman and Greg hard at work on mapping project, summer 1986. Photo provided by David A. Wallace.*

**Roger Wiggin** (M.A., 1987), e-mail address rwiggin@csi.com, resides in Englewood, Colorado, and writes, "Finally made it to Denver—my native Colorado family is ecstatic. Currently Vice-President of Exploration and Development at Tipperary Corp, active in the Rockies, Permian, and Gulf Coast Basins, plus C.B.M. in Australia. Run into John Curchin (working on a Ph.D. at Colorado University) and Joel Schneyas (President of Mercantile Resource Finance) occasionally."

**John A. Wilcox** (B.S., 1990) is a geologist/chemist with LATA in Los Alamos, New Mexico. He writes, "Howdy, everyone. I am currently working in support of the environmental restoration program at Los Alamos National Labs. In addition, my wife Suzanne and I are raising a couple of aspiring paleontologists (dinosaur fossil junkies). Hook 'em Horns!" His e-mail address is jwilcox@lata.com.

**James Richard Williams** (B.S., 1950) is retired in Bullard, Texas, and writes, "Doing fine. Still golf, fish, and hunt. Also, visit children and grandchildren in Minnesota, Colorado, and Austin. I have appreciated this *Newsletter* since graduation in 1950."

**Jefferson Williams** (B.A., 1988) is a consultant with Borehole Acoustics and Microseismics and lives in Los Angeles, California, with an e-mail address of willgeo@ibm.net.

**Larry E. Williams** (B.S., 1978) lives in Spicewood, Texas, is an explorationist with Ballard Exploration Co., in Houston, Texas, and writes, "After 20 years, I finally made it back to the Austin area–Lake Travis to be exact!"

**Robert R. Williams** (B.S., 1954) is a consultant in Dallas, Texas, and writes, "Look forward to hearing news from everyone. Eight grandchildren and holding at latest count."

**Charles R. Williamson** (Ph.D., 1978) resides in Villa Park, California, is Executive Vice President of International Energy, Unocal Corporation in El Segundo, California, and writes, "Trying to weather the down cycle. Seems more demanding every year but still finding oil and gas, seeing lots of Asia, and enjoying the international business. Oldest son at university in Washington (Whitman) but no interest in geoscience!" E-mail address is cwilliamson@unocal.com.

**J. B. Willman** (B.S., 1979) lives in Brady, Texas, is a consultant in Houston, Texas, and writes, "The 315-mile commute from Brady to Houston is beginning to get old, but there is no place like Houston to sell a prospect."

**Clayton H. Wilson** (B.S., 1983, M.A., 1985), e-mail address clawilson@sprintmail.com, lives in Humble, Texas, works in Houston, Texas, for Exxon Exploration Company, and writes, "I have been working offshore Brazil for the last two years. My first son, Lance (who was born while I was in graduate school), is now as tall as I am, and likely to pass me soon!"

**Douglas H. Wilson** (B.S., 1980) lives in Spring, Texas, is employed as a Senior Principal Geologist at Vastar Resources, Inc. in Houston, Texas, e-mail doug.w@pdq.net,

and writes, "I am working Mississippi Canyon and Desoto Canyon in the Deepwater Gulf of Mexico. Becky and Rachel are doing very well. Rachel and I are enjoying camping with the Indian Princess program."

**William Feathergail Wilson** (B.S., 1960, M.A., 1962) is President of Strata Geological Services in Tarpley, Texas. He resides in Bandera, Texas, and his e-mail address is featherg@hetc.net. He writes to let us know he is, "Semi-retired, teaching, working on a new meteor crater in the Hill Country, consulting as an expert witness, chief hydrogeologist for EFSI, running samples on water wells in Bandera County, and is an environmental and petroleum geologist."

**Wynant S. Wilson** (Attended 1953) writes from Abilene, Texas, "To survive I have had to switch into gas exploration and development."

**Marc D. Wink** (B.S., 1985) lives in Houston, Texas, is a manager with EnFORM Technology, LLC, and has an e-mail address of Marc.Wink@Alumni.UTexas.net.

**Kurt Wiseman** (B.S., 1976) lives in Houston, Texas, and writes, "Since oil and gas prices are down and business slowing, I guess I will fish and dive offshore more." E-mail address is kurtwisemanhoustontx@worldnet.att.net.

**Megan McCrary Wisersky** (M.A., 1985) resides in Stoughton, Wisconsin. She is a Senior Analyst with Madison Gas & Electric in Madison, Wisconsin, and writes, "Busy handling electric deregulation issues or how to take a monopoly and make it a competitive entity. My husband, Dave, and my son, Tom, now 4 years old, insure that I'm always on the go. Best regards to all." Her e-mail address is mwisersky@mge.com.

**Ed Wolcott** (B.S., 1966) is President of Edco Petroleum, Inc. in Dallas, Texas, and writes, "Trying to live on low price oil no thanks to President Clinton and Senator Phil Gramm, who believe we should work for nothing so they can chase girls and serve chemical companies."

**Amy Wood** (B.S., 1985) is a programmer/analyst in Austin, Texas, with an e-mail address of woodshaw@flash.net.

**John W. Wood** (Ph.D., 1965) is retired and writes, "Still located in Sunset Canyon Subdivision near Dripping Springs, Texas. After career in petroleum industry, have enjoyed recent forays into 'general' geology in form of lectures and field trips given for L.B.J. Heartland Network (Blanco River sauropod trackways and Glen Rose paleoenvirons) and for Wild Basin Wilderness Preserve (Geology of Wild Basin Trails). Glad to welcome Ted Longgood and Jim Underwood back to the Austin area and into the Austin Geological Society. Another pleasant surprise is that my Apache Mountain field assistant (1962), Phil Koepp, is also back in town!"

**Robert L. Wood, Jr.** (B.A., 1956) is retired in Houston, Texas, and writes, "Doing some consulting."

**LeRoy Woollett** (M.A., 1951) is in Houston, Texas, and writes, "Still an active representative for Aetna. Grandson at Baylor, grandson at UT Austin, and granddaughter at University of Kansas. Daughter Edie at the U.S. Embassy in Moscow."

**Charles J. Worrel** (B.S., 1951) lives in San Antonio, Texas, is employed by Worrel Exploration, Inc. with e-mail address of cjworrell@worldnet.att.net, and lets us know, "It is difficult to write these personal notes about yourself. Here goes. I have been a consulting and exploration geologist for 44 years—all types of consulting work—and participated in approximately 20 discoveries over many years, with varying degrees of economic success. We have four children, all graduates of the University of Texas—two All-American swimmers and two Phi Beta Kappas. We are very proud of our association with the University of Texas. Many memories flow through my mind when I struggle to express what is in my heart. Particularly our contact with classmates through reunions. You all should be very proud of the department you have created and carried on through the years. My best."

**Danny Worrell** (B.S., 1980) is an attorney with Brown McCarroll and Oaks Hartline L.L.P., in Austin, Texas. He writes, "Gail (Gail Fisher 1982) and I have two children–Sophie (age 4) and Anna (age 3). Gail does environmental regulatory compliance for a major oil company."

**Steve Wright** (M.A., 1980) lives in Eagle River, Alaska, is Senior Staff Exploration Geologist with Chevron U.S.A. in Anchorage, and writes, "My family and I have been in Anchorage for a year and a half now, and we've enjoyed every minute…great geology, spectacular scenery, and incredible wildlife. Stop by if you're up our way." E-mail address is sswr@chevron.com.

**Lori Wrotenbery** (B.S., 1980) is Director of the Oil Conservation Division of the Energy, Minerals & Natural Resources Department in Santa Fe, New Mexico.

**Phil Wyche** (B.S., 1951) lives in Austin, Texas, and is retired from Gulf Oil Corporation. Phil is a member of the Geology Foundation Advisory Council.

**Bob Wynne** (B.A., 1957) is an independent consultant in Fort Worth, Texas, and writes, "Maintaining health more a concern than oil prices. Would be great to have both!"

**John C. Yeager** (M.A., 1960) is an independent geologist in Lafayette, Louisiana.

**Susan Wygart Young** (M.A., 1985) is a geological advisor with Conoco, Inc. and writes, "We're moving to Houston, Texas, in June with Conoco. Caroline is 8 and Conrad 7 (first and third graders). I worked the Williston Basin (Lodgepole) until September; currently in the San Juan Basin, and will begin working South Texas in June." E-mail address is susan.w.young@usa.conoco.com.

**William C. Young** (B.A., 1961) is in Hemphill, Texas, and writes, "Still enjoying retirement on Toledo Bend Lake. Fishing, bridge, golf, and chess occupy most of my time."

**Xiaomei (Mei) Zhou** (B.S., 1997) resides in Austin, Texas, works as an onboard marine processor (geophysics) on the Polar Princess (Veritas DGC) out of Houston, Texas, and writes, "The job I have is ideal for those B.S. graduates who are flexible and who are looking for an alternative working environment. The best thing about this job is you get six months out of a year vacation time! And the pay is great!" The e-mail address is Polar_Princess@veritasdgc.com.

**Francis Scott Zimmer** (B.S., 1986) lives in Vernon, New York, is Director of Environmental Laboratory/Environmental Consultant with Hygeia of New York, Inc. in Utica, New York, and writes, "Hello GeoBuddies–hope all are doing well. Melanie and I are doing well with our Greyhound, Gale, and our home in snow country (mild this year). Did some fossil collecting around New York State this past year. More involved with environmental geology at work." E-mail address is franciscoHzimmer@netscape.net.

**Robert L. Zinn** (B.A., 1952, M.A., 1953) is the owner of Zinn Petroleum Company in Houston, Texas, and writes, "Though the 'oil patch' is getting a bit quiet, I continue to participate in exploration. I believe that petroleum that is found now will be worth more in the near future."

## We need your help…

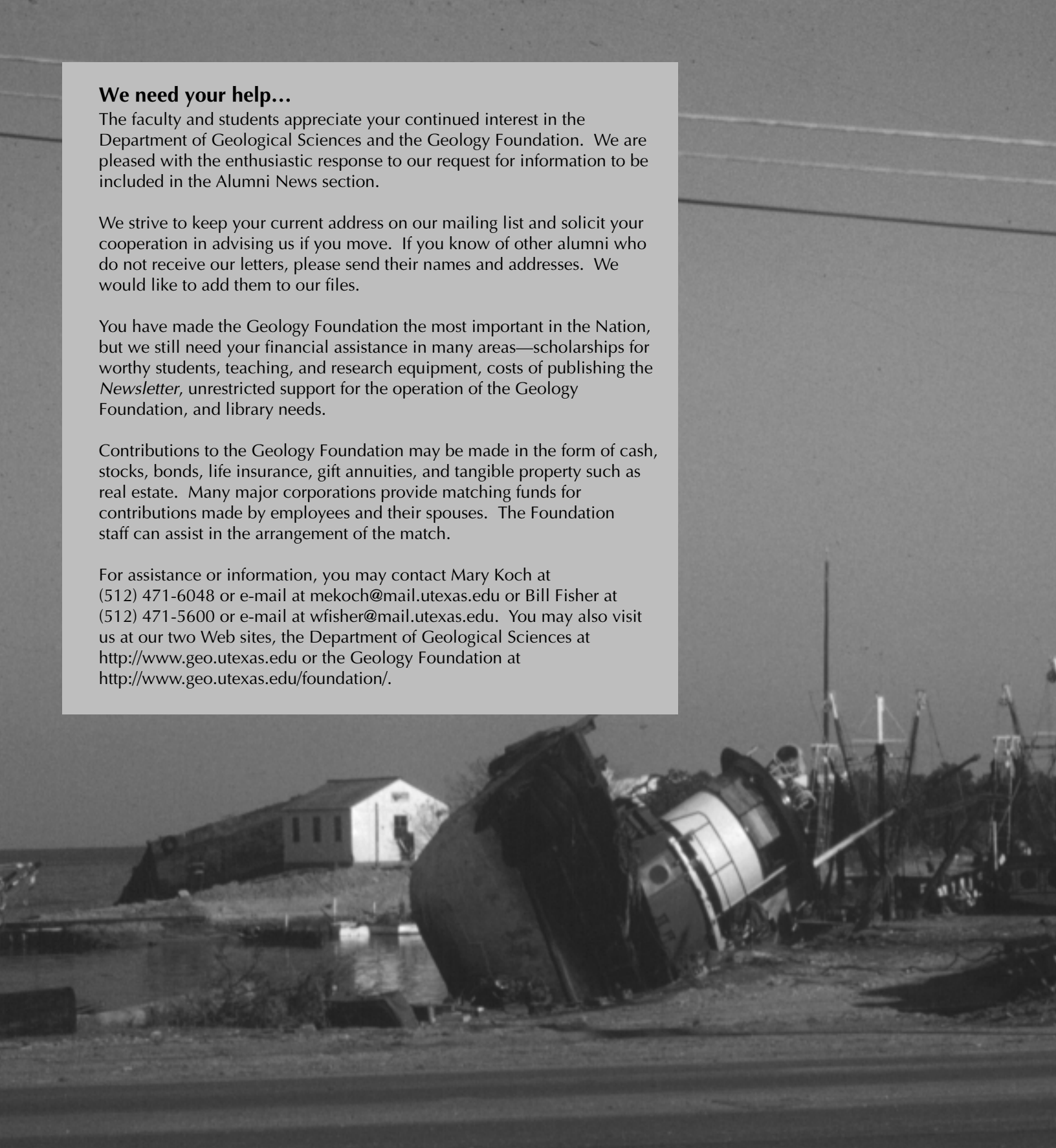
The faculty and students appreciate your continued interest in the Department of Geological Sciences and the Geology Foundation. We are pleased with the enthusiastic response to our request for information to be included in the Alumni News section.

We strive to keep your current address on our mailing list and solicit your cooperation in advising us if you move. If you know of other alumni who do not receive our letters, please send their names and addresses. We would like to add them to our files.

You have made the Geology Foundation the most important in the Nation, but we still need your financial assistance in many areas—scholarships for worthy students, teaching, and research equipment, costs of publishing the *Newsletter*, unrestricted support for the operation of the Geology Foundation, and library needs.

Contributions to the Geology Foundation may be made in the form of cash, stocks, bonds, life insurance, gift annuities, and tangible property such as real estate. Many major corporations provide matching funds for contributions made by employees and their spouses. The Foundation staff can assist in the arrangement of the match.

For assistance or information, you may contact Mary Koch at (512) 471-6048 or e-mail at mekoch@mail.utexas.edu or Bill Fisher at (512) 471-5600 or e-mail at wfisher@mail.utexas.edu. You may also visit us at our two Web sites, the Department of Geological Sciences at http://www.geo.utexas.edu or the Geology Foundation at http://www.geo.utexas.edu/foundation/.



**Beached boats in Port Lavaca following Hurricane Carla, September 1961.**

**Photo provided by Ernest L. Lundelius.**