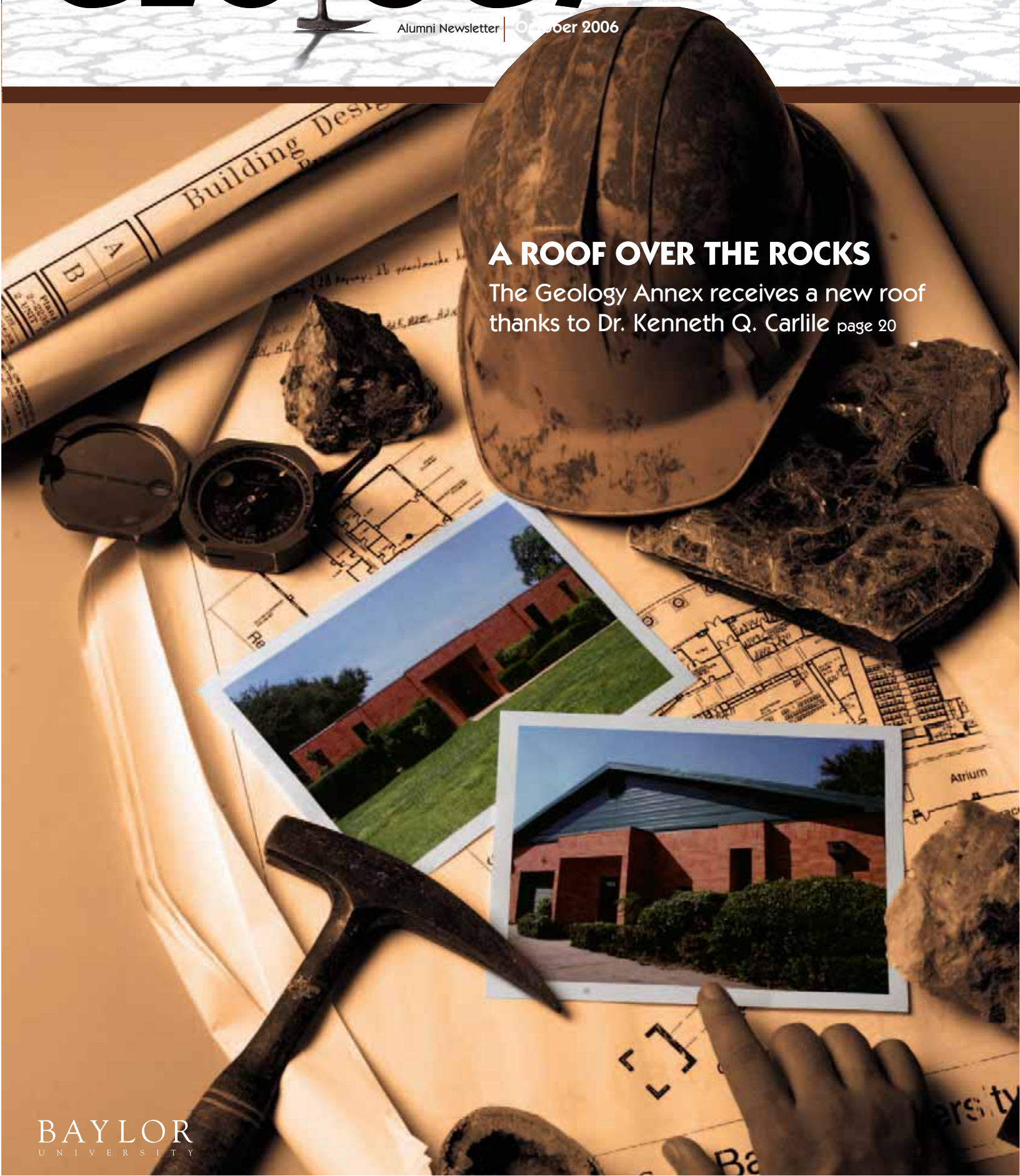
Department of

GEOLOGY

Alumni Newsletter | October 2006



A ROOF OVER THE ROCKS

The Geology Annex receives a new roof thanks to Dr. Kenneth Q. Carlile page 20

BAYLOR
UNIVERSITY

Dr. Steven Driese *Message from the Chair. . .*

Dr. Steven G. Driese

THE 2005-2006 ACADEMIC YEAR IN REVIEW

This Year's Newsletter Theme

The theme for this year's newsletter reflects the fact that we are a Geology Department that is truly blessed with generous and caring alumni. No other department in the College of Arts and Sciences on the Baylor University campus, to my knowledge, has developed such a program of dedicated alumni giving gifts, and coordination of mission and planning with an alumni advisory board. President Lilley, in a written address distributed to administrators dated May 10, 2006, titled "Reorganizing to Create a Campus-wide Culture of Philanthropy at Baylor University," indicated that fundraising will be a major emphasis for him in his job as president, and that he views development programs as keys to the future success of Baylor University. Following his lead, I have tried to contact as many of you as possible who regularly give to the Geology Department of your time and talents, and have asked you to tell us, in a few sentences, why Baylor University and the Geology Department are so important to you that you regularly give gifts. No gift is too small, and we value each and every one of you as friends and alumni of the Department. We look forward to seeing you at the Geology Alumni Homecoming event on Friday evening, October 20, 2006, from 7-9 p.m. in the fourth floor clock tower (room E401) of the Baylor Sciences Building. Come visit with former faculty, classmates, and staff!

Administrative, Faculty and Staff Changes: Dr. Bill Underwood served very ably as Baylor University interim President for about six months, after which Dr. John Lilley, former president of the University of Nevada at Reno, was named president of Baylor University in January 2006, with his inauguration held April 21, 2006. The search for dean of the College of Arts and Sciences failed, and Dr. Lee Nordt (of our Geology Department) was asked to continue to serve as interim dean of the College of Arts and Sciences for another year as the search resumes. Ms. Janelle Atchley joined the Department part-time providing support in the office. Ms. Lisa Zygo resigned her position in CAGSR in May 2006, and she and her husband are relocating to the Houston area — we will miss her excellent instruction as a lecturer in our GIS courses! Dr. Zhaodong (Jordan) Feng, a physical geographer formerly at Montclair State University in New Jersey, was hired as an associate professor after an exhaustive national search that resulted in 48 completed applications submitted for the position. Dr. Feng, an internationally recognized paleoclimatologist, specializes in study of climate records of Quaternary paleosols, loess and paleo-lakes preserved in remote regions of Mongolia, Kazakhstan and China. Jordan will start his faculty appointment at Baylor University in August 2006, and will teach Physical Geography, Geomorphology and graduate courses of his choosing, as well as possibly the Applied GIS course. We are very glad to have him aboard! The chair plans to renew the Department's request to hire a new faculty member in contaminant hydrogeology, and in addition, request (for the first time) a laboratory coordinator in Geology, which is a non-tenure-track lecturer/staff position.

Fellowship Events: The annual Fall Welcome Picnic was once again held for faculty, graduate and undergraduate students, and spouses and children, at Dr. Steve Driese's house in August 2005. The Geology Alumni Homecoming Event with food and refreshments was again hosted by the Geology Department in the Baylor Sciences Building in October 2005. Steve and Marylaine Driese held their annual Christmas party for faculty and staff in December 2005 at their home. And the Geology Department held its second annual spaghetti supper event at Harrington House on the Baylor University campus in February 2006 for faculty, staff, graduate and undergraduate students, and spouses and children. The event included faculty-student "roasts" and "elucidation" by Dr. Joe Yelderman — the students were especially harsh this year in their ice-skating spoof of Dr. Nordt, but he promises to get back at them next time. Finally, the Department hosted a farewell luncheon for Ms. Lisa Zygo at Trujillo's Restaurant in May 2006.

Development Efforts and Alumni Events: The Baylor Geology Alumni Board of Advisors held a business meeting prior to the Alumni Homecoming Event in October 2005. Planning for the Geology Alumni Reception in Houston and a tour of the Carlile Geology Research Building dominated the meeting agenda. Board members were apprised of the need to raise funds for renovation of the Carlile Building due to extensive water damage caused by a leaky roof. The Geology Department and the Geology Alumni Board of Advisors, led by Ms. Marlow Anderson-Newton of Exxon-Mobil, held a first-ever Alumni Event on Monday, April 10, 2006 at the

AAPG Alumni Event in Houston Texas on April 10, 2006

2nd Annual Spaghetti Supper at the Harrington House, February, 2006

Fall Welcome Picnic at the Driese's Home, August, 2005

Four Seasons Hotel in Houston in conjunction with the AAPG-SEPM annual meeting. About 30 alumni and friends attended, along with five Geology faculty and four Geology graduate students. Alumni were briefed on several new initiatives, including plans for construction of a new Applied Petroleum Studies Laboratory for Dr. Stacy Atchley in the Baylor Sciences Building and plans for renovations of the Carlile Geology Research Building. Alumni also saw a poster highlighting current graduate research in the Department. Two new endowments were established in 2005-2006 by generous alumni of the Department: 1) the Jean Spencer-Jenness Geology Library Endowment was established in Jean's memory by her husband, Dr. Stuart Jenness, and members and friends of the family. It will be used to supplement Geology acquisitions for the library; and 2) the James W. Dixon Undergraduate Field Assistant Award was established in Dr. Dixon's memory by his family and a bequest left in his will. It will be used to support undergraduate Geology students who would like to gain experience as field assistants working with geology graduate students. Both endowments would benefit from continued contributions by friends and alumni. Alumnus Dr. Ken Carlile provided a major gift in December 2005 that will support replacement of the roof and renovations of the Carlile Geology Research Building, and in 2006 he announced that he wished to help support construction of a Beaver-Brown Applied Petroleum Studies Laboratory in the Baylor Sciences Building. These efforts are described more thoroughly later in this message.

Graduate Program: The Department successfully recruited four new PhD and four new MS students for fall semester 2005, filling all available GTA positions. The Department had 13 GTAs in the fall and 14 in the spring 2006 semester, plus two students supported on grants. Two new PhD students and three new MS students will be starting in the fall semester of 2006. At that time, the graduate student body will be 50 percent PhD and 50 percent MS students. Dr. Shane Prochnow, currently employed by CAGSR, was our most recent PhD graduate. All of our 2005-2006 MS graduates secured employment in the oil and gas industry or environmental industry, or went on to graduate school. One recent MS graduate in applied petroleum studies actually had eight job offers! In addition to the already stringent requirements that our PhD candidates must publish two papers (and submit a third) in peer-reviewed journals before they can defend their dissertation, we added two new requirements for our Ph.D. students starting in the fall semester of 2006: 1) they are now required to take a one credit-hour graduate seminar in grant proposal writing, and 2) they are now required to submit a dissertation proposal to their committee that is in a form that can be submitted to an external funding agency. Nine graduate (MS and PhD) students were successful in generating more than $22,500 in external funding through 12 awarded student grants-in-aid of research averaging about $2,000 per award. Two PhD dissertation proposals resulted in grants submitted to the Petroleum Research Fund of the American Chemical Society. Another change was implementation, in the spring semester of 2006, of mandatory student evaluations of Geology graduate teaching assistants (Geology GTAs), using a form developed by the science departments, which is likely to become standard across the entire campus.

Research Productivity: The Geology Department's research productivity for 2005-2006 included 20 peer-reviewed publications, 40(+) professional presentations, and circa $500,000 in external funding in force. Journals in which articles were published include: *American Association of Petroleum Geologists Bulletin*, *Bulletin of the Seismological Society of America*, *Canadian Mineralogist*, *Earth and Planetary Science Letters*, *Geoderma*, *Ground Water*, *International Society of Explosive Engineers*, *Journal of Geology*, *Journal of Hydrological Sciences*, *Journal of Paleontology*, *Journal of Sedimentary Research*, *Journal of Volcanology and Geothermal Research*, *Palaeo3 (Palaeogeography, Palaeoclimatology, Palaeoecology)*, *Rocky Mountain Geologist*, *Quaternary Research*, *Sedimentology*, and *Water Resources Research*. Abstracts were presented at the Geological Society of America annual meeting (11), American Association of Petroleum Geologists annual meeting, Texas A&M University Soil Survey and Land Resources Workshop, International Goldschmidt Conference, International SWAT Conference (Zurich, Switzerland), as well as a number of other professional organizations and universities. This increased emphasis on publishing, giving professional presentations, and securing external funding is part of an effort to increase Geology Department visibility at a national level.

Guest Lecturers for Geology 5050 Colloquium Series: The Geology 5050 Colloquium Series continued in its new schedule at 3 p.m. on Friday afternoons in order to accommodate out-of-town speakers flying in to Waco on "super-savers" that required Saturday night layovers. We continued to hold a 2:30 p.m. coffee, punch and cookie reception prior to each guest lecture, as well as occasional Saturday field trip and short course experiences. The Department funded four to five out-of-town (= out of driving distance) speakers each semester in an effort to increase Department visibility at a national level and expose Geology students to researchers from across the country. Notable out-of-town guest speakers in 2005-2006 included: Dr. Mike Hess (Texas Board of Professional Geologists), Dr. Gail Ashley (Rutgers University: Vice Provost for Research Colloquium series), Kembel White (Southwestern University), Dr. Martin Volk (University of Leipzig, Germany), Dr. Joseph Von Fischer (Colorado State University), Dr. Doug Ming (Johnson Space Center: Vice Provost for Research Colloquium series), Dr. Claudia Mora (University of Tennessee-Knoxville), Dr. Julia Sankey (California State University, Stanislaus)), Dr. David Brown (Montana State University), Dr. Kirsty Duncan (University of Toronto), Dr. David Loope (University of Nebraska), Dr. Jordan Feng (Montclair State University), Dr. Cynthia Stiles (University of Wisconsin-Madison), (Dr. Robert Font, AIPG past-president) and Dr. John Holbrook (University of Texas at Arlington).

Undergraduate Program: The Department was down 2.0 in full-time-equivalent faculty positions during 2005-2006 because of Dr. Jennifer Rahn's departure and Dr. Lee Nordt's appointment as interim College of Arts and Sciences dean. However, Ms. Lisa Zygo and Dr. Shane Prochnow helped cover some of the Geography and GIS teaching load as temporary lecturers. The enrollments in Geology major courses such as mineralogy, paleontology, structural geology, petrology and stratigraphy are up considerably over the past academic year, which indicates that we are starting to see the predictable growth in our numbers of majors that correlates with increasing costs of a barrel of crude oil (currently at record high levels). Another measure is that the summer field camp course in 2005 had four students, whereas the 2006 field camp course will have 10. The new senior Colloquium course, designated as a capstone in the major, had eight students enrolled in spring of 2006. The structure course for fall 2006 is huge, with a projected enrollment of 16 students. The numbers majoring in Geography have declined, primarily in response to our continued shortage of geography faculty necessary to offer all of the courses required in the major, but we expect this trend to reverse in 2006-2007 with new Geography faculty hire Dr. Jordan Feng. Dr. John Dunbar and Dr. Vince Cronin completed a massive revision of the laboratory exercises for the Geo 1401 Earthquakes and Natural Disasters course, which means that both our Geo 1401 and 1405 Physical Geology labs are now revised. With the addition (assuming administrative approval in June) of a new laboratory coordinator/lecturer (mentioned previously) we should be able to revise all of the introductory course laboratories in Geology and Earth Science, which should translate into increased enrollments and student satisfaction with our courses.

SACS Re-accreditation: Baylor is again under a 10-year cycle of review for SACS re-accreditation. The Geology Department

developed assessment plans for each of its undergraduate and graduate degree programs. One of the assessment tools was our development of customized "exit exams" for students in the BS Geology, BS Geophysics, BA Earth Sciences and BA Geography degrees, and these were administered in each semester to graduating seniors. Dr. Driese also conducted "exit interviews" with graduate students on their graduate educational experiences. Recent graduating graduate and undergraduate students were queried as to their employment/educational status and how well their respective degree program served their needs and prepared them for life beyond Baylor University.

Acquisition of Teaching and Research Equipment: The Department continues with major efforts to upgrade and broaden its teaching and research equipment base. Our new large-equipment item acquired in 2005-2006 was a Siemans D5000 theta-two theta X-ray diffractometer (XRD) for the identification of powdered minerals. The Department purchased the instrument with College of Arts and Sciences capital equipment funds, and added the Jade-Plus and Powder Diffraction File software, a new Dell Computer, and a printer to support the instrument using development funds contributed by Geology friends and alumni. Critical large equipment needs for the Department still include: a new x-ray fluorescence (XRF) unit for determination of major and minor element chemistry, an inductively-coupled plasma mass spectrometer (ICP-MS) for determination of trace element chemistry, and a stable isotope mass spectrometer. With Don Parker as co-PI, Dr. Driese will resubmit a grant proposal to NSF Major Instrumentation and Facilities Program to try to secure a new Rigaku XRF for whole-rock and whole-soil geochemical analysis. With Dr. Steve Dworkin as PI, the Department will submit a grant proposal to NSF Major Instrumentation and Facilities Program to try to secure a new dual-inlet gas-source mass spectrometer.

Construction of New Beaver-Brown Applied Petroleum Studies Laboratory: Thanks to a very generous gift by Geology alumnus Dr. Ken Carlile, a new 800-square-foot Beaver-Brown Applied Petroleum Studies Laboratory will be constructed during the summer of 2006 for Dr. Stacy Atchley and his Applied Petroleum Studies students out of vacant "shell space" in the Baylor Sciences Building. The lab satisfies a pressing need in the Department for dedicated research space for the Petroleum Studies Program, and will include basic construction of a space with portable tables, power outlets and magnetic wall surfaces for displaying cross-sections. THERE IS A CRITICAL NEED for donor support for acquisition of three dual-screen high-performance Dell computers for subsurface projects, a research-grade microscope and digital camera for core analysis, and a large plotter for printing posters and cross-sections. Please let Dr. Atchley know if you can help with this effort.

Roof Replacement for Carlile Geology Research Building: Thanks to a generous gift by Geology alumnus Dr. Ken Carlile made in December of 2005, the flat roof on the circa 6,100-square-foot Carlile Geology Research Building (also known to many as "the Annex") will be replaced with a steep-pitched metal roof, supported by fabricated roof trusses, during the summer of 2006. The existing flat roof has leaked throughout the 25-year existence of the structure and previous efforts to stop the water were unsuccessful. The new roof will stop further water damage. THERE IS A CRITICAL NEED for donor support for renovating and refinishing the interior of the structure, where there has been substantial water damage to the ceiling, walls and floor, as well as replacing the HVAC system. This building provides storage for research equipment and samples that cannot be accommodated in the Baylor Sciences Building, as well as supports "dirty" sample preparation activities, including rock-cutting and thin-section preparation. Please let Dr. Driese know if you can help with this effort.

Gifts to the Geology Department: The following individuals contributed directly to the Geology Department over the past several years. We sincerely thank each of you for your generosity, which goes a long way in improving our program.

Akers, Larkin James
Anderson-Newton, Marlow
Atlee, William
Ayers, Ronald A.
Barnhart, John and Carolyn
Barrett, Kevin
Beall, Arthur O. and Barbara
Beall, Jason
Brimberrry, David and Lisa
Beaver, Harold and Dorcas
Brown, John Mark
Brown, Michael C.
Bonem, Rena
Boone, Peter A.
Carlile, Kenneth Q.
Carlson, Dale W.
Cronin, Cynthia Ellis and Vince
Cypull, Thomas Alan
Davis, Keith William
Dixon, James W., bequest and family
Dunbar, John and Anna
Dunham, Mark Edwin
Dunlap, Kenneth
Ellis, Leonard R.
Feckley, Suzanne and David
Font, Robert G.
Gibson, Brady Allan
Hamilton, Dean Carr
Hardie, William E.
Haverland, Clarence
Hayward, Chris and Mary Sue Brigham
Henderson, Gary and Jill
Hobbs, Robert S.
Hopkins, Otho and Betty
Hudson, Presley, Connie and Virginia
Jaffe, Daniel
Jakubowski, Edward
Jamieson, William (Hank) and Nanette
Jenness, Stuart, and members and friends of the family
Johnson, Denna K.
Johnson, Douglas Wade
Jostes, John H.
King, Summer
Laing, Nancy Lynn
Lane, Shelley Watson
Layton, Marsha Anne
Le Fevre, Stephen
Lemons, David R.
Luginbill, Charles Philip
Matthews, Truitt
Meyerhoff, James C. and Lisa
Montgomery, Glen David
Montgomery, James and Deanna
Moore, Thomas H.
Morris, Rebecca Johnson
Myrick, Mark
Namy, Jerry
Neal, Barbara Newcomer
Oldani, Martin
Owen, Mark T.
Pankonien, Laura
Parchman, W. Leo
Parker, R. Jay
Parsons, Andrew C. and Bobbye Sue
Phillips, Jack
Pieracacos, Nicholas
Pfluger, Bill and Karen
Preston, Richard D.
Price, Jonathan Darrel
Rapp, Keith B.
Riola, John Peter
Ritch, Kurt
Roberson, Dana and Gary Don
Shelburne, Orville, B.
Shelton, John W.
Sleeper, James Lockert
Smith, Cindy
Staples, Marcus and Brenda
Temaat, Janet
Thomas, Ronnie G.
Trice, Jack (E.L.)
Turner, Joshua C.
Van Camp, John David
Walker, William A.
Walker, Sandra
Warner, Lloyd L.
Wedel, Thomas J.
Wilson, Rachel S.
Witcher, Albert

The following corporations contributed matches directly to the Geology Department over the past several years. We sincerely thank each of you for your generosity, which goes a long way in improving our program.

Adult Learning Institute
American Association of Petroleum Geologists
Anadarko Petroleum Corp.
Apache Corp.
Auriga Energy, Inc.
Chevron Phillips
Chevron/Texaco
Encana Oil and Gas
Exxon/Mobil Foundation
Fugro Consultants LP
Husky Oil Operations, Limited
Kerr-McGee Corp.
Lerwick, 1 Ltd. - given by Judith Lerwick
Lockheed Martin Corp.
Marathon Oil Company
Murphy Oil Company
Odyssey International, LLC. - given by James Willis
Pennzoil-Quaker State Company
Pogo Producing Company
Samuel Roberts Noble Foundation
Shell Oil Company Foundation
Texaco Philanthropic Foundation
Texland Petroleum, Inc.
USX Foundation, Inc.
Weems Geophysical, Inc.

From the professors. . . Peter Allen

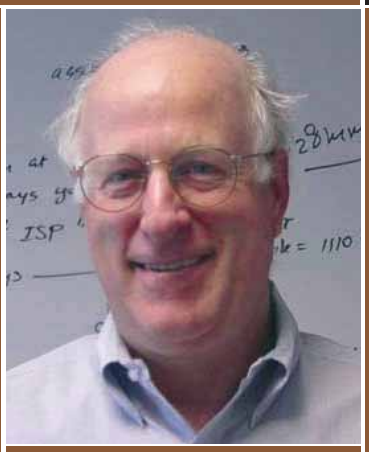
The years seem to go by so fast. It seems like just yesterday I was packing up many of you about this time to head out west to do some "mini" projects. I continue to teach the same classes: Physical Geology, Engineering Geology and Hydrology. Yes, the students are still going to the field every week, writing memos and final reports.

In terms of research, I have been wandering around in three areas. I am still working with John Dunbar on an increasingly busy schedule of analyzing sedimentation in small floodwater structures. This is for two major reasons; one is to find out how fast they are filling up and or how much time they have left, the second reason is to acquire precious data on the rates of erosion. In this regard, we just finished up with a major document to the Texas Water Development Board (with John Dunbar) along with Chuck Tracy of Alan Plummer which details options and costs of dredging reservoirs within the State of Texas. We have also submitted a proposal to work on a reservoir in Kenya with Dr. Daniel Moriasi. John and I are just starting multiple year grants with the USDA, TWDB and the EPA on floodwater structures. We are finishing up an assessment of watershed erosion and sedimentation into Cedar Creek Lake from an 1,000-square-mile watershed with the Spatial Sciences Lab at Texas A&M.

The second area of research is with Jeff Arnold and Pei Yu of ARS/USDA using remote sensing and stream flow records to try and deduce riparian vegetation water use. We are also working on a major revision to the SWAT model (USDA/EPA) which will allow routing of water and nutrients down slope to the streams, thus allowing more of an idea on the efficiency of application and funding of Best Management Practices within watersheds. Work on the SWAT model continued in Zurich, Switzerland, over the summer, where I presented a paper and was contributor on a second paper at the Third International SWAT Conference. This area of research also encompassed work as a dissertation committee member to get Jacquelyn Duke, a biology student, to finish up her PhD this spring. Jackie was working on the effect of floodwater structures on riparian vegetation under the guidance of Dr. Joseph White in Biology.

A third area involves continuing work with engineering firms, principally in the Metroplex, on assessing the condition of urban stream corridors. A former student, Gary Henry (MS) and I completed two such studies in the last year, one for the City of Grand Prairie in the Joe Pool Watershed and another for the City of Bedford. In addition, John Bongino and I worked on evaluating a mile-long log jam on the Sulphur River in North Texas for Halff Associates under contract to the Texas Highway Department. Stephanie Capello, a new MS student, and I will be working on a rapidly urbanizing are of the Metroplex in analyzing and monitoring stream channel erosion.

Travels continue as this year I was invited to an NSF review panel in Minneapolis on "Environmental Stratigraphy" which is part of the FORSED group to participate in a roundtable discussion and give a talk. The meeting was extremely interesting as it was a comparatively small group of geologists from around the country asking the questions about the future directions of stratigraphy and questions concerning Katrina's impacts on stratigraphy and of course future funding opportunities. I also gave a talk and proceedings paper at the International Erosion Control Association annual meeting in Dallas with Walter Skipwith of Halff Associates. I also gave an invited talk at the Spring Texas River and Reservoir Management meeting at Baylor last spring. Boyd Dreyer and I ran a field trip to the Canyon Lake Spillway with about 60 geologists from around the state for a fall AEG meeting. Boyd talked on the stratigraphy and I gave a talk on spillway erosion and rock erosion following up on research in this area which will be done some day by Craig Crawford. This spring I also gave a talk on urban geology at the National AAPG meeting in Houston, and on Stream Geomorphology at an invited symposium in Austin at the Texas Water Development Board.



Dr. Peter Allen

On the grant scene, I am working with John Dunbar, Bruce Byars, Shane Prochnow and others from Biology and Environmental Studies on assessing Lake Whitney's salinity. This grant, founded on the hard work by Bruce and others, should provide the state with first-hand knowledge of the potential of Whitney to serve as a future water source for the local area, especially the town of Whitney. This will be a 2-3 year project with total funding from various agencies exceeding $1 million.

On the home front, I finally got a small house in Waco so Peggy can bring the dogs down for a visit, as well as getting out of the apartment. I continue to commute on weekends to Dallas. Sarah lives about 10 minutes away and is a busy mother with Dulany, four, and Olliver almost two. Maggie is about to get her RN in Boston and is working on her MSN within the next few years. Annabel is a freshman at the University of Colorado majoring in Psychology. Annabel plans to spend the summer working in the Austin area.

All and all I am having a blast and really enjoy hearing from you all about your jobs, families and related triumphs. Please keep in touch, as I am running out of lies to tell the students.

Sikiru Amidu, Marie Garsjo, Chair Texas Section AEG, Dr. Jerry Higgins, GSA and Jahns Distinguished Lecturer, Colorado School of Mines, at the annual AEG Banquet of the Texas Section hosted by the Geology Department at Baylor. Sikiru won first place in the student paper competition for his talk on Time Series Resistivity and Gilgai.

STACY ATCHLEY

Dr. Stacy Atchley

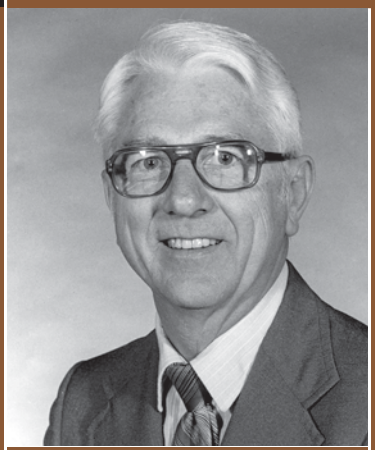
I just received an e-mail from our office assistant Jamie Ruth requesting faculty to submit their annual newsletter contributions. Has yet another year already passed by?? As I reflect on major occurrences within my corner of the department, the following highlights come to mind. My MS student Erica Josson (anticipated to graduate in August) won first place at the AAPG Student Expo last October for her thesis poster presentation. Erica's thesis project involved the Mississippian Pekisko Formation at Twining Field, central Alberta, Canada. Needless to say, especially in the current economic climate, Erica ended up with more job offers than I can count and ultimately accepted a position with Anadarko. David Cleveland, a PhD student that I'm co-advising with Lee Nordt, has made excellent progress on his dissertation which involves the Triassic of New Mexico. David turned his preliminary results into a number of grant proposals, including an excellent proposal submitted to the Petroleum Research Fund, and so far has received funding from both SEPM and GSA. Insiders have also suggested that David's PRF proposal is receiving favorable reviews. We'll keep our fingers crossed there.

For all of those former students who complained there was no space available to work on their thesis projects, the problem is being worked. By fall 2006, construction should be completed on an 800-square-foot dedicated petroleum geology research lab funded in large part by Dr. Ken Carlile, and dedicated to Dr. Harold Beaver and Dr. Bill Brown. I propose that the lab be informally referred to as the "Brown Beaver" petroleum lab. Kinda catchy, huh? Harold and Bill, we'll do our best to live up to your fine examples.

For the summer I'll first be taking my semi-annual advanced sequence stratigraphic pilgrimage to west Texas, New Mexico, and Utah with five graduate students. We'll be following in the footsteps of previous students in Big Bend, the Guadalupe Mountains, Canyonlands and Arches, and of course, the Book Cliffs. A good time will be had by all. Once the field course is complete, my family and I will again be traveling to Calgary, where I and David Cleveland will be working on two separate projects sponsored by Auriga Energy. I'll be taking a research leave from Baylor this fall and will be fully engaged with Auriga through December, and part-time during the winter and spring of 2007.

All is well on the home front. We moved into a new home in China Spring last May, and are enjoying "country" living. My oldest, Dallas, is now age 12 and in 7th grade at China Spring Middle School. Audra, age 8, is in 2nd grade at Waco Baptist Academy. All three of my girls (including my wife Janelle) greatly look forward to our summer adventures in Canada. This year we're hoping to make an extended visit to the Columbia Ice Fields in Jasper and Banff National Parks.

HAROLD BEAVER *Emeritus Professor*



Harold Beaver

The Southwest Section of the American Association of Petroleum Geologists honored Dr. Harold Beaver, Emeritus Professor, on May 23, 2006, with a "Distinguished Educator Award 2006" at an awards banquet in Midland, Texas. Dr. Beaver was nominated by Baylor Geology alumni Debra Osborne Purifoy and Randy Pharis. A monetary donation will be given to the Geology Department by the Southwest Section of the AAPG in honor of both Dr. Beaver and Dr. William G. Brown, Emeritus Professor. The donation is to be used toward the Applied Petroleum Studies Lab being constructed this summer and named in honor of Dr. Beaver and Dr.Brown. Congratulations on a well-deserved award!

James McAtee, Joe Yelderman, John Belew, Harold Osborne, Wallace Christian and Harold Beaver on a local field trip

RENA BONEM

During the last year, several important events have happened in the department as well as in my personal life.

Last summer, I had a summer sabbatical and was able to revise my lectures and student materials for World Oceans and most of Invertebrate Paleontology. I have to get the last part of Paleontology (trilobites through graptolites) done this summer. This revision was much needed because the classification of almost every group has changed. I also returned to Jamaica with Marie Maher, a new MS student who is working on lagoonal patch reefs. We are returning to Jamaica this May to complete her work and start another graduate student on a Pleistocene reef project since the Jamaicans have blasted a four-lane highway out of the Hopegate Formation on the north coast. The Oklahoma Edrioasteroid paper appeared in the *Journal of Paleontology* this spring and I need to work on a paleoecology paper for JP this summer. Rachel Bruner completed her senior thesis on using spatial analysis techniques to map the dinosaur trackways at Dinosaur Valley State Park in time to graduate in August and attend Texas A&M this fall with her new husband. The larger project with Jim Farlow will start next summer.

As the price of oil and gas increases and jobs in the petroleum industry command larger salaries, we have a growing number of undergraduate geology majors. My latest estimate is 50 undergraduate majors — Invertebrate paleontology has 22 students enrolled for the fall (the largest class since 1982) and Structure has 15 students. Freshman classes continue to fill in all semesters.

On a personal note, my dachshund pack has grown to six, as I adopted the mother of my Goldie and Will'em, so I now have four wire-haired dachshunds. Lucy finally decided to be my team partner in agility, so she and Tess have earned 24 ribbons in agility since the end of January after only five during all of last year. So far, Lucy has lost 11 pounds and I have lost seven pounds as we run around the field. Will'em is starting agility next! I also got an opportunity to take a 10-day trip to Cocos Island (Treasure Island from the novel by RLS and the place where Jurassic Park was filmed) over Christmas break. It is near the Galapagos and the island for which the Cocos Plate is named. Lots of sharks and rays around volcanic formations above and below water.

Dr. Rena Bonem

I hope that all alumni are doing well and would like to extend a special wish that all of you will be able to come and visit us soon in the new building. The new "Mohole" needs some serious redecoration and help to make it feel like home!

Christmas 2005

White-tipped Oceanic Sharks

Marble Rays

Cocos Topside

Alcyone

Cocos Island

Cocos Topside

BILL BROWN *Emeritus Professor*

Dr. William (Bill) Brown

Isn't it amazing how fast time flies? For instance, in the last Alumni Letter (2005) I had mentioned that I had about finished up my paper on tectonic stylolites in the Arbuckle Anticline. Well, a year has gone by and I just got the manuscript submitted to the Oklahoma Geological Survey this past week!!! Now we'll just have to wait and see if they will accept it for publication. Of course I have a "reason" for it taking me so long to get things done. In this case, I had submitted a copy to ChevronTexaco because I had received a financial grant from Texaco to do the field work. When the ChevronTexaco geologist that is in charge of southern Oklahoma read it, he said "it is a fine piece of work — BUT — I sure wish you had done a statistical analysis of the orientation of the stylolite teeth (tooth axis equals direction of stress)." I made a deal with him; he would do the statistics (and he did) and I would write up the results (which I did)! Actually, I learned some things about statistics and I have to admit that the statistics added something to the report.

The sad thing about this year is that I haven't done any fishing!

My health is about the same as it was last year; I still get an injection of steroids in each eye about four times a year. I am still on Coumadin (blood thinner) and have a blood check every four weeks. I have noticed more this year that with my blood so thin, I have to be careful and not work out in the hot sun without a hat on--apparently the heat brings me up to a boil! Have the same old problems with memory and putting thoughts in order (whether speaking or writing).

Claretta's health has gotten worse. She now knows what her problem is: it is called "Osteoarthritis". The bones in her spine are brittle and are deteriorating. Plus there are bone spurs growing on the lower part of the spine. The pain is probably coming from pinched nerves. The doctors have tried about everything they can come up with to handle the pain, including six shots of BOTOX at the base of the spine. I told Claretta at least she should not have any wrinkles in that part of her body!

She has spent 10 days in Scott and White Hospital in Temple. They finally managed to get the pain under control (more or less). She was transferred to the Regent Care Center here in Woodway. The physical therapist is to get her back on her feet after 10 days in bed. After a few more MRIs and X-rays, we are going to be able to paper our bedroom with them!

By the time you read this, we will both be 72 years old. It doesn't seem possible, but my aches and pains tell me it is really true. I used to be able to mow the entire yard; now I can mow the front yard in about 45 minutes and the backyard takes about an hour. Of course I have to take several rest periods before I can finish the lawn.

I am looking forward to seeing and visiting with all of you that come to Homecoming this fall. This is a special homecoming for me. I graduated from Baylor in the spring of 1956!! "IKE" Eisenhower was the guest speaker for my graduation. Ike made an exit through the back door of Waco Hall. I followed him and just as he got in the limousine, I waved and said "Hello Ike ", and he waved back to me. Now days, the Secret Service probably would have shot me for even being that close to him!! Wow!!! 50 years and I am still in Waco!!

VINCE CRONIN

Dr. Vince Cronin

Since the beginning of last summer, my students and I have had a busy and productive time. I taught introductory structural geology and its lab, a graduate course on active faulting, an introductory course in physical geology, and coordinated the intro phys geology labs. I also helped/hindered John Dunbar in his attempt to revise the "shake and bake" labs in Geology 1401. In the wake of hurricanes Katrina and Rita and other disasters, I helped cover for other faculty members who were called away from their teaching or other duties. I also served on two proposal-review panels at the National Science Foundation in Washington, which was a lot of fun (and a lot of work).

I organized oral and poster sessions concerning the recognition and characterization of active faults at the Geological Society of America annual meeting in Salt Lake City last October. One of the favorable outcomes of that session was an invitation by Vince Matthews, the State Geologist of Colorado, to join him in the search for seismogenic faults in Colorado. I hope to take him up on his offer beginning in 2007.

I solved the problem of how to define the uncertainties associated with strike-and-dip orientation data, using Fisher statistics to analyze multiple measurements, and submitted the

corresponding paper to the journal *Environmental and Engineering Geology*, where it has been favorably reviewed. I refined my software application for defining seismo-lineaments (Gammill, Cronin and Byars, 2004) so that it maps the uncertainty region resulting from the vertical and horizontal errors in focal location. I will soon complete a manuscript describing a new method for correlating a recorded earthquake with a surface fault, using focal mechanism solutions and digital elevation models. And as if that was not enough nerdy fun for one year, I recently solved the problem of how to evaluate whether an earthquake focus lies within the orientation-undertainty region associated with an observed fault.

The students who work with me on research projects are making good progress and enjoying success in their endeavors (see www.baylor.edu/~Vince_Cronin/GradStudents.html).

- Bill Walker received recognition as a Roy Shlemon Scholar at the 2005 GSA Annual Meeting, and completed his MS thesis on the structure of the Criner Hills, south-central Oklahoma, in April. He combined surface and subsurface (well) data to develop an internally consistent 3-D model of the structural geology of the Criner Hills area. He benefited from the advice and assistance of Bryan Sralla and Bill Brown as his study evolved. Bill presented preliminary results from his thesis research at the GSA meeting in Salt Lake City and at the AAPG Student Expo, where he attracted the attention of recruiters from ExxonMobil. He was invited to an ExxonMobil field course after the GSA meeting, and was subsequently offered full-time employment after completion of his MS. Bill graduated in May, 2006.
- Alison (Jones) Ngyuen and her husband Mike are now the proud parents of their first child, Gabrielle Thu-Mai Nguyen, born on March 31, 2006. Alison is also completing production of her MS thesis on fractures and faults in the Paradox Basin, Utah, aiming for graduation in December 2006.
- Brian Bayliss received a grant from the Gulf Coast Association of Geological Societies in support of his thesis research, testing a new method for identifying seismogenic faults. Brian and I conducted field work in the central Santa Monica Mountains of California in early summer 2005, followed by another week of field work at Christmas with Brian and Lauren Seidman Brian presented some preliminary results of his thesis research at the AAPG Student Expo in September 2005, as well as at the GSA Annual Meeting, and has secured an internship with Devon for the summer of 2006. Brian plans to complete his MS degree this coming December.
- Lauren Seidman joined our MS program in the fall of 2005, having earned her BS degree in Geology from Smith College in Northampton, Massachusetts. Lauren was recently notified of her selection as a Roy Shlemon Scholar for 2006, and she will be recognized at the GSA Annual Meeting in Philadelphia this coming fall. She has also received grants in support of research from the GSA Foundation and Sigma Xi. Lauren accompanied Brian Bayliss and me for a preliminary field season in the Santa Monica Mountains last Christmas, and we will soon depart for Malibu again for her primary thesis field work. After her field season, Lauren will work as an intern for Nexen through the summer of 2006. She plans to graduate with her MS in May 2007.
- Mark Millard began his graduate work at Baylor this past January, having earned a BS degree cum laude from Brigham Young University in Idaho. His presentation at the AAPG Rocky Mountain Student Expo prior to arriving at Baylor earned second-place honors. He has already received a grant in support of research from the AAPG, and will be working as an intern at XTO Energy during the summer of 2006. His thesis research will tie together some near-shore marine geophysical data with on-shore mapping to identify seismogenic faults along the eastern Malibu coastline. Mark plans to conduct his primary field work in Malibu over the Christmas break, and hopes to graduate in August 2007.
- David Prado has been working with me on a BS thesis, using DEM analysis and field work to define faults and fracture/joint trends in the Waco area. He will graduate in August 2006.

I am also working with recent Baylor grad Raphe Brackney on a study that is attempting to associate several recently recorded earthquakes with specific faults in the Grand Canyon area of northern Arizona.

My family is doing well, and enjoying a new swimming pool that we built last summer. Our lot is along a ridge line on Cretaceous chalk, with at best ~3 inches of soil on top of bedrock. Consequently, the hole for the swimming pole was not so much "dug" as it was pounded into existence using a jack hammer on a back hoe. Our daughter Kelly graduated from 8th grade in May, and will attend Reicher Catholic High School in the fall. She is doing really well in school, academically and otherwise, and is looking forward to playing volleyball at the high-school level. Connor is finishing-up 4th grade at St. Louis School, and is currently enjoying being the "Big Kahuna" on his Pee Wee baseball team, on which he is the star catcher. He is also an ace defender on his soccer team during spring and fall seasons, and rounds out the sporting year with basketball and volleyball. Cindy (Ellis) Cronin is still putting-up with all of us, thankfully.

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STEVE DRIESE

Dr. Steven Driese

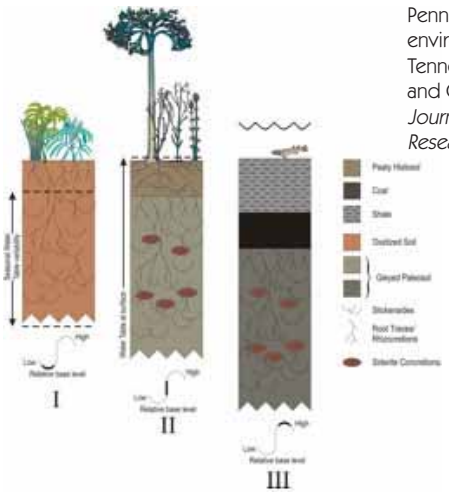
I have now completed my second year as chair of the Geology Department — how time flies! My appointment is officially 50 percent administrative and 50 percent departmental (teaching and research), but the administrative side seems to dominate my time (at least during some times of the year).

In the spring semester of 2005 I taught Geo 5339 Sandstone Petrology to three students, and in the fall semester of 2005 I taught a first-ever Geo 5V90 Micromomorphology of Soils and Paleosols class to five students —,both of these courses quickly developed a reputation for causing "raccoon eyes" in graduate students related to heavy microscope usage. I also taught a new graduate seminar on Grant Proposal-Writing to seven PhD and one MS student, which was judged a success, based on the positive course evaluations. In the spring semester of 2006 I taught another new course, Geo 43C1 Senior Capstone Course, to eight graduating seniors (seven Geology majors and one Earth Science major) — the students read critical new literature in Earth History (kind of an advanced historical geology) and took turns leading discussions of assigned papers, gave a PowerPoint presentation on a research project, and submitted a term paper on a research project.

In the fall of 2005 I began supervising three new PhD students: Deb Jennings (MS from Kansas), Julia Kahmann (MS from Baylor) and Aaron Shunk (MS from Tennessee; co-chaired with Steve Dworkin). Deb is working on a modern-ancient analog comparison of volcanic-parented soils and paleosols from Costa Rica and the Jurassic Morrison Fm. of the western U.S., in an attempt to distinguish volcanic from climatic signals. Julia is reconstructing the paleoclimate history and sequence stratigraphy of upper Mississippian paleosols-marine "cycles" in the Pennington Fm. of southeastern Kentucky, employing modern analog soils in Indonesia to try to pick up a "signal" from the migration of the paleo-Intertropical Convergence Zone. Aaron is working on the paleoclimate records of a late Miocene to early Pliocene paleolacustrine and paleosinkhole deposits in eastern Tennessee, north-central Indiana, and northern Florida, and is hoping to find evidence of a major climate shift during this time, as well as evidence for high-frequency climate periodicity.

My own research continues to focus on paleoclimate and paleolandscape reconstructions using fossil soils, or paleosols, as well as on applications of pedology and sedimentology to solving environmental problems. I published four refereed journal articles in 2005 and have three papers accepted or in press for 2006. I presented five papers, as either an author or co-author, at the Geological Society of America Annual Meetings, was a co-author of a paper presented at the Clays and Clay Mineral Society annual meeting, and presented professional talks for the Baylor University Geology Department, the Department of Soil and Crop Sciences at Texas A&M University, the Department of Geology at Miami University of Ohio, the Department of Geological Sciences at the University of Texas at Dallas, and the Waco Gem and Mineral Society. Two proposals were submitted, but were not funded: 1) with Peter Allen and John Dunbar as PIs, and Steve Dworkin and myself as co-PIs, we submitted a USDA proposal to do high-resolution studies of sediments and sediment processes filling small SCS reservoirs in Central Texas, and 2) with Don Parker as co-PI, we submitted a grant proposal to NSF Major Instrumentation and Facilities Program to try to secure a new Rigaku XRF for whole-rock and whole-soil geochemical analysis.

During the spring and summer of 2006 I submitted four proposals: 1) a Petroleum Research Fund (PRF) grant to support Julia Kahmann's PhD research (mentioned above), 2)



Reconstruction of early Pennsylvanian soil environments in eastern Tennessee, from Driese and Ober (2005), *Journal of Sedimentary Research*, Figure 9.

Steve Driese at edge of Loboi Swamp in Kenya, Africa, from Ashley et al. (2004), *Sedimentology*, Figure 5.

a NASA Mars Fundamental Research Grant (with Dr. Doug Ming at the Johnson Space Center, Dr. Tony Runkel at the MN Geological Survey, and Dr. Minghua Ren at the University of Texas at El Paso) to support studies of Precambrian-Cambrian paleo-weathering surfaces, 3) an NSF grant (with Dr. Greg Ludvigson and Dr. Luis González from the University of Kansas Geology Department) on paleoclimate reconstructions modern calibrations using sphaerosiderite, and 4) resubmitted the NSF equipment grant for a new XRF. And I continue to work on Superfund site characterization and coal tar-derived PAH remediation near Chattanooga, TN, with Dr. Larry McKay (University of Tennessee Department of Earth and Planetary Sciences), as well as climate studies of Costa Rican soils and Quaternary paleosols, with Dr. Sally Horn and Dr. Ken Orvis (University of Tennessee Department of Geology). I continue to serve my profession by reviewing submitted manuscripts for the *Journal of Sedimentary Research, Sedimentology, Sedimentary Geology, Geology, Palaeo*[3]*, Quaternary Research, Geochimica et Cosmochimica Acta*, and *Geoderma*. I reviewed grant proposals for the National Science Foundation and Petroleum Research Fund, served on the Editorial Board of *Sedimentary Geology*, and recently was appointed an associate editor of *PALAIOS*.

My family and I continue to enjoy living in southwestern Waco (Harris Creek subdivision off Highway 84). We recently remodeled the kitchen and master bathroom, which was a five-week ordeal of sheet rock dust, noise and paint fumes that was definitely worth it in the end. Marylaine has been busy continuing to redecorate "Rancho Driese" and has become especially handy stripping popcorn ceilings. She has greatly enjoyed her part-time job as archivist for McLennan Community College, learning all the techniques of cataloging and preserving historical materials. Mary Catherine has graduated from the 8th grade at Midway Middle School, benefiting from their outstanding orchestra and competitive swimming programs, and will start high school in the fall of 2006 at Midway. She also continues to be a member in the Waco Youth Symphony Orchestra and participates in youth group activities at First Presbyterian Church. Our oldest son Nathan is now in the PhD Philosophy program at the University of Kansas, and has enjoyed serving as a graduate teaching assistant and a lecturer for the Department there. Our younger son Trevor signed a one-year contract to teach English to Japanese middle school students in Mito-shi, a city located about 35 miles north of Tokyo. It sounds like an incredible experience in immersion in a foreign culture — we miss him dearly, but he manages to stay in touch via e-mail, telephone (using the computer) and sending us lots of digital images. In spite of the distance, both Nathan and in-laws Tex and Dottie Hight manage to make frequent visits to Waco to visit us. Steve and Marylaine continue to be dedicated Lady Bears season basketball fans, and also enjoy singing together in the chancel choir at First Presbyterian Church. In a weak moment, Steve agreed to serve as an elder on the session, which means he has even more meetings to attend!

Steve Driese, Fall 2006

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JOHN DUNBAR

Dr. John Dunbar

Twelve years ago, when John Dunbar decided to apply his background in exploration seismology to the study of water reservoirs, he did so thinking that it would be a useful way to use his no longer needed petroleum expertise in a world of $12 per barrel oil. In spite of oil's subsequent recovery, John has never looked back (will, maybe once or twice). He is happy to report that after several lean years, during which no research funding could be found, things have turned around in a big way. Now, instead of soliciting research funds from government agencies, the agencies have been contacting him, requesting his services. Together with Peter Allen, John has ongoing reservoir research projects with the National Resources Conservation Service, the U.S. Environmental Protection Agency, the Texas Water Development Board, the Texas Soil and Water Conservation Board, and the Tarrant County Water District, all of which were initiated by the funding agencies.

In light of this success, John was not surprised last February when he got a call from the Arkansas State NRCS office, requesting a survey of an old SCS reservoir near the town of Waldron, Arkansas. John suggested that he might be able to fit the survey in sometime in late spring or early summer, but was surprised when the NRCS representative insisted that the City of Waldron needed the survey now. Water reservoirs fill with sediment over periods of many decades to a few centuries, one or two months delay in conducting a survey is usually not important. However, this was not the usual case. It turned out the reservoir (Lake Waldron) is the sole source of water for the town of Waldron and the reservoir was dry. The City wanted the survey not to find out how much sediment had been deposited in their reservoir, but to find out how many more weeks their water supply would last. So in mid-February John and his intrepid graduate student Heidi Hensen loaded up the survey equipment and headed for Arkansas to conduct what is likely the first ever emergency survey of a water reservoir (see accompanying photo).

This summer John is looking forward to receiving two new geophysical instruments to further his reservoir studies. He expects to receive a next generation acoustic profiling system funded by the USDA, which will have 10 times of the resolution of his current equipment. Heidi Hensen will use this system in her dissertation work on reservoir stratigraphy. John also expects to receive a new marine electrical resistivity system funded by the EPA. This system will be used to map salinity variations in Lake Whitney and by graduate student Sikiru Amidu in his dissertation work.

On the home front, John's daughter Tamura is now a teenager at 13 years old. She just completed the seventh grade at Vanguard College Preparatory School in Waco. She continues to play basketball and her love of reading has not diminished. She is looking forward to three summer camps — all in Central Texas — at other "institutes of higher learning" that are well-known to all!

Last summer, Tamura and John did another "father-daughter" trek that included Mammoth Cave National Park, Yellowstone National Park and Glacier. A highlight of the trip was walking in the snow at Glacier in July. It was a nice way to get away from the Texas heat — but Tamura disparaged the "posterior-numbing" ride to Canada!

John's wife, Anna, who is a 1978 Baylor graduate, continues her job as the Regional Director of the Waco office of the Texas Commission on Environmental Quality. The big news in the Waco region is the coming influx of coal fired power plants to the area over the next five years. However, as we all know, all of that can change with even a slight change in the cost of raw materials.

Finally, the family dog, Jessie, a yellow lab, continues to run the Dunbar household. Her addictions to Frisbee-catching and tennis ball-retrieving continue but she has slowed down a bit since her puppy days.

John Dunbar on a chilly February day at a half-empty lake, Waldron, Arkansas

STEVE DWORKIN

It is hard to believe that my 15th year at Baylor has passed by so quickly. Even though I am now a full professor, I am still one of the youngest faculty members in the department. Don't think of us as old — think of us as wise!

My graduate student Malena Zou graduated this past year. She investigated the water chemistry in the North Bosque River.

Steve and Sandy at the World Congress of Soil Science in Philadelphia. Note Ben Franklin's first post office across the street.

Dr. Steve Dworkin

One of the most remarkable aspects of her study was the astounding concentrations of orthophosphate that still plague the river. Malena's highest measurement of this nutrient topped 7 mg/l!

I received a small grant this year to help pay for Sr isotopic analyses of central Texas dust. These analyses suggest that the weathering of dust contributes a significant amount of solutes to shallow ground water and surface water. I have been measuring Sr ratios in dust, waters, rocks and soils — this keeps me busy traveling to Austin to use the mass spectrometers.

I taught mineralogy this past spring semester and we have a great new crop of undergraduates. I also helped Rena teach her reef ecology course in Jamaica, and as usual, I taught half of the summer field course.

TENURE-TRACK CONTAMINANT HYDROGEOLOGIST, DEPARTMENT OF GEOLOGY, BAYLOR UNIVERSITY

The Department of Geology at Baylor University invites applications for a tenure-track Assistant Professor in Contaminant Hydrogeology, beginning August 2007. A PhD in Hydrogeology or in a related field is required at the time of appointment. The Department currently consists of 13 geoscientists, including both geologists and geographers (please see the Department website at: www.baylor.edu/geology/for further information).

Research: The Department seeks an individual with a strong research agenda that includes both field and modeling studies of contaminant transport in groundwater systems. These contaminant systems might include, but are not limited to, organic solvents, radio-nuclides, pathogens such as viruses and bacteria, or toxic inorganic compounds or metals. The individual must be able to communicate and collaborate with a subset of the Geology faculty members that are currently engaged in studies in the general areas of hydrogeology, surface-water hydrology, aqueous geochemistry, and environmental geology and geophysics, and is expected to carry out a vigorous research program that involves both undergraduates and graduates. We also encourage collaboration with Baylor University faculty members currently engaged in water-related research, including the Center for Reservoir and Aquatic Studies Research (CRASR), the Departments of Biology and Environmental Studies, The Institute of Ecological, Environmental, and Earth Sciences (TIEEES), and the Baylor Wastewater Research Program. Research space for contaminant hydrogeology is available in the two-year-old, 500,000-square-foot "state-of-the-art" Baylor Sciences Building.

Teaching: We seek an individual with a strong commitment to excellence in teaching, and require that he/she contribute significantly to both the undergraduate programs in Geology and Earth Science by teaching a freshman course, a contaminant hydrogeology course that includes a significant component of numerical modeling, as well as contribute to the graduate (MS and PhD) programs in Geology by teaching graduate courses or seminars in his/her areas of specialization. A laboratory that includes high-performance computers and software, as well as two large plotters, is available for both instruction and research. Ancillary research support is provided by CAGSR (Center for Applied Geographic and Spatial Research).

Application Process: Send letter of application, including statement of teaching and research interests, curriculum vitae, copies of transcripts, and the names and contact information for three references to: Dr. Steven G. Driese, Chair, Search Committee, Department of Geology, Baylor University, One Bear Place #97354, Waco, TX 76798-7354 (Tel: 254-710-2361; e-mail: Steven_Driese@baylor.edu). The review of applications will begin December 1, 2006, and will be accepted until the position is filled. To ensure full consideration, application must be completed by December 15, 2006. Baylor is a Baptist university affiliated with the Baptist General Convention of Texas. As an Affirmative Action/Equal Opportunity employer, Baylor encourages minorities, women, veterans and persons with disabilities to apply.

SUMMER FIELD CAMP

Camping at the San Juan Mountains, Colorado

Coconino Overlook in the Grand Canyon

Drafting up a map at Hilltop Campground, Nevada

Field camp students looking at Permian fossils inside Slaughter Canyon Cave

Dr. Dworkin

Field camp students mapping dunes at White Sands, New Mexico

Getting ready to hike to the bottom of the Grand Canyon

Group shot of field camp on the rim of the Grand Canyon

Taking a bearing while mapping dunes

ZHAODONG (JORDAN) FENG

As the newest addition to the Geology Department I would like to take this opportunity to introduce myself to Baylor alumni and friends. I received both my BS and MS degrees in Geography from Lanzhou University in China. I went on to get another Masters degree in Geology from the University of Washington in 1987, and then the PhD degree in Geography from the University of Kansas in 1992. Afterwards, I spent two years at the Lamont-Doherty Earth Observatory of Columbia University (as a postdoctoral research fellow) and two years at the University of Utah (as a visiting assistant professor of Geography). I have been on the faculty of Montclair State University in New Jersey, as both an assistant and as an associate professor of Geography, for the past 10 years (1996-2006). At Montclair I have taught eight different courses: (1) GEOS 107: Planet Earth, (2) EUGS 207: East Asian Geography, (3) EUGS 270: Digital Mapping, (4) EUGS 352: Fluvial Systems, (5) EUGS 470: Geographic Information Systems, (6) EUGS 540: Pro-Seminar on GIS and Spatial Analysis, (7) EUGS 540: Pro-seminar on Global Environmental Changes, and (8) ENVR 770: Earth System Science.

I am very passionate towards my research and would like to tell you more about what I have done, as well as what I do currently. I spent four years investigating glacial geomorphology and climatic history in the Tibetan Plateau, and my studies resulted in eight Chinese publications and six Chinese book chapters. My paper on: "Last glacial snowlines in the Tibetan Plateau: an argument against an extensive coalescing ice sheet" appeared in *GeoJournal* [44(4): 355-362, 1998] and summarized my work demonstrating that Kuhle-proposed large-scale last glacial ice sheet did not exist in the plateau. My dissertation research (at the University of Kansas) and postdoctoral research (at Columbia University) resulted in six publications in international journals that upgraded the loess-related paleoclimatic reconstruction research in the central Great Plains, after nearly 20 years of loess-research hiatus there. My first NSF-supported regular research project on Last Interglacial Paleosol and Climatic Reconstruction in the Chinese Loess Plateau has produced five publications in international journals and three more papers are underway. This project utilizes the basic techniques of soil geography to demonstrate that "blind" high-resolution paleoclimatic reconstruction from loessal paleosol sequences is highly problematic.

I have been recently working on Reconstruction of Late Quaternary Climatic History in the Mongolian Plateau. Two NSF pilot projects (1996 and 1998), one NGS project (2000) and one recently-funded NSF regular research project (2004-2007), together with one project funded from a Chinese source to study Inner Mongolia, have generated abundant data from 14 eolian and five lacustrine core sequences. This research has already resulted in six publications in international journals and six more papers are in preparation. I also did two internally-funded GIS projects at Montclair State University and carried that interest to Lanzhou University of China (2000) where I received sizeable project funding (GIS-assisted modeling of Potential Hydro-ecology in the Chinese Loess Plateau). This funded project has resulted in 12 English-language publications. To expand my research horizons, I have done a pilot study in Kazakhstan (summer of 2005) and have already submitted an NSF proposal on Bioclimatic reconstruction from loess-paleosol sequences during the past 50,000 years in the westerly dominated Tienshan-Altay regions (western Xinjiang of China and eastern Kazakhstan). I am currently working on submitting another NSF proposal on Lake-core-documented Holocene climate changes in the westerly dominated region and the proposal will be soon submitted to NSF ESH program.

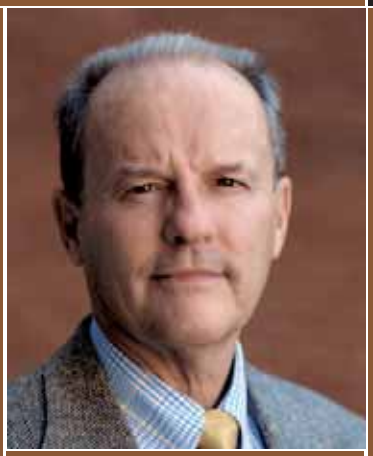
Peer-Reviewed Journal Publications (including accepted): 2006

1. Feng, Z.-D., An, C.B., Wang, H.B. and Zhai, X.W., 2006. Holocene Climatic and Environmental Changes in the Arid and Semiarid Regions of China: A Review. *The Holocene*, 16: 19-30.
2. Feng, Z.-D. and Wang, H.B., 2006. Geographic variations in particle size distribution of the last interglacial pedocomplex S1 across the Chinese Loess Plateau: their chronological and climatic implications. *Catena*, 54: 22-34.
3. Feng, Z.-D., L.Y. Tang,, H.B. Wang, Y.Z. Ma, 2006. Holocene Vegetation Variations and the Associated Environmental Changes in the Western Part of the Chinese Loess Plateau. *Paleogeography Paleoclimatology Paleoecology* (in print).
4. Feng, Z.-D., Tang, L.Y., Ma, Y.Z., Zhai, X.W., A.T. Jull. 2006. Stratigraphic and pollen evidence for an extremely wet climate during the marine isotope stage 3 (~5-2 ka BP) in the western part of the Chinese Loess Plateau. *Paleogeography Paleoclimatology Paleoecology* (accepted).
5. Feng, Z.-D., Zhai, X.W., Wang, W.G., Zhang, H.C., Ma, Y.Z., A.T. Jull. 2006. Eolian climatic variations during the past 35,000 years in the northern Mongolian Plateau, as indicated by geophysical, geochemical and geobotanical proxy data. *Paleogeography Paleoclimatology Paleoecology* (accepted).
6. Zhao, C.Y., Nan, Z.R., Chen, G.D. and Feng, Z.-D., 2006. Spatially distributed and resource variables-based modeling of the potential ecological conditions in the Qilian Mountains. *Ecological Modeling* (in print).
7. Zhao Chuanyan and Feng Zhaodong, 2006. GIS-assisted modeling spatial and temporal variation of soil water content in a catchment of the western Chinese Loess Plateau. *Journal of Hydrology* (in print).
8. Zeng Yongnian, Zhaodong Feng, Huo Xu, 2006. Grassland desertification and its impacts in soil carbon emission in the upper reach of the Yellow River, Northeast Qinghai-Tibetan Plateau. *Journal of Arid Environment* (in print).
9. Feng, ZD., Wang, WG., Li, XQ., Ma, YZ., Zhang, HC., and An

TOM GOFORTH

I was on a sabbatical during the spring of 2005 but was back at my teaching duties during the fall. Throughout the sabbatical and during the remainder of the 2005-2006 academic year I extended my research on the seismic characteristics of mining explosions. I had two papers published on the subject in early 2006. The first was in the *Bulletin of the Seismological Society of America* and provided a theoretical explanation for the failure of regional seismograms to scale with the size of mining explosions in the Canadian Shield. The second paper appeared in the *Proceedings of the International Society of Explosive Engineers* and presented a theoretical explanation for the great differences observed between the seismic characteristics of Canadian Shield and Powder River Basin mining explosions. In general, the characteristics of regional seismograms resulting from delay-fired mining explosions vary significantly depending upon both the details of the firing program and the geological parameters of the travel path. Many of the seismogram characteristics can be predicted by linear superposition theory if sufficient detail is known about the spatial and temporal distribution of the explosive; the elastic properties of the rock material being blasted; and the density, attenuation, and seismic velocities of the crustal and upper mantle structure along the travel paths.

I am currently investigating the separate contributions made by the delay-fired source and by the travel path in the determination of characteristics of regional seismograms generated by two quite different mining operations in two different geological environments.



Dr. Tom Goforth

In the fall of 2005, as usual, I taught a 120-student section of Earthquakes and Volcanoes. I also taught a course in exploration geophysics for 15 geology majors.

My wife and I recently completed building a new home on five acres in Crawford. After a year of construction, we finally moved in late May. We had raised two kids and lived in the same house in Woodway for 20 years so it was with mixed feelings that we left for the country.

PUBLICATIONS:

Goforth, Tom T., Hetzer, Claus, and Stump, Brian, 2006, Characteristics of regional seismograms produced by delay-fired explosions at the Minntac Iron Mine, Minnesota, Bulletin of the Seismological Society of America, vol. 96, no. 1, pp. 272-287.

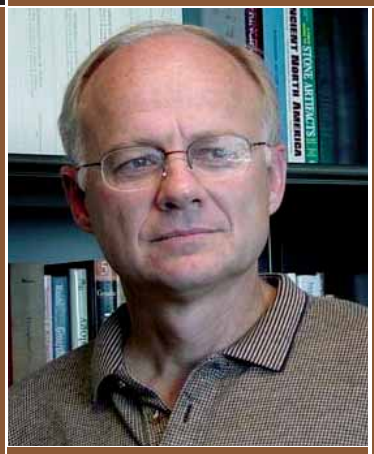
Goforth, Tom T. and Zhou, Rong-Mao, 2006, Characteristics of seismic waves produced by surface mining operations, Proceedings of the 32nd Annual Conference on Explosives and Blasting Technique, Jan 29-Feb 1, 2006, Dallas, TX.

Tom & Royce Goforth in Canada.

CB., 2005. Holocene climate changes in the Mongolian Plateau: preliminary results. *Quaternary International*, 136: 25-32.

10. Feng, Z.-D. and Wang, HB., 2005. Pedostratigraphy and Carbonate Accumulation in the S1 Pedocomplex across the Chinese Loess Plateau: Implications for Climate Interpretation. *Soil Science Society of American Journal*, 84: 422-429.
11. Lee, X.W., Feng, Z.-D., Guo, L.L. and Wang, L.X., 2006. Soil- and plant- ^{13}C variations along a N-S (32-55 °N) transect in east-central Asia. *Journal of Biogeochemical Cycles* (in print).
12. Feng, Z.-D., Wang, L.X., Guo, L.L. and Lee, X.Q., 2006. Bioclimatic dependence of soil- ^{13}C variations along a N-S (32-55 °N) transect in east-central Asia. *Geoderma* (accepted).
13. Li, C.B. and Feng, Z.D., Modeling surface runoff in a small watershed in the western part of the Chinese Loess Plateau. *International Geoscience and Remote Sensing Symposium* (IGARSS), 2006: 3041 – 3045.

LEE NORDT



Dr. Lee Nordt

Maria Orosz graduated in August 2005 with a master's degree and Shane Prochnow in December with a PhD. Maria is working for an environmental consulting firm on the east coast as Shane continues his work with CAGSR here at Baylor. David Cleveland continues his PhD work on the Triassic in Utah and John Bongino with his work on the Waco mammoth site. John has become a celebrity conducting interviews, working in the Mayborn Museum, and interacting with city officials and folks from the National Park Service. This coming fall I have Chris Gotcher (Masters) and Steve Ahr (PhD) entering the graduate program. They have interests in Quaternary geology and geoarchaeology.

My teaching activities have been limited because of administrative duties, however, I will again teach Geoarchaeology the spring of 2007 and give a few lectures for Steve Driese's graduate Paleopedology graduate class this fall. I continue to serve on the Editorial Board of the *Geoarchaeology-An International Journal* and was invited to be a board member for the journal *Geology*. My scholary activities for the past year are listed below.

Kaylee has successfully completed the 7th grade and was even inducted into the Junior National Honors Society. She continues with many extracurricular activities, but is focusing more on volleyball, piano, and golf. She is looking forward to attending Church Camp this summer near Fredericksburg.

Although involved in many activities, High School graduation was Garrison's primary objective this past year. He surprised us by agreeing to attend Mary Hardin Baylor University this fall in order to play on the golf team (and hopefully to receive an education!)

Kathy continues to enjoy working as outpatient surgery admitting nurse at Providence Hospital. She also spent a great deal of time coordinating Garrison's graduation activities. My job was to pray that they would bring it all together in a timely manner!

As a side note, the College of Arts and Sciences will undergo an intensive strategic planning process this coming year and the Geology department needs to be at the forefront. President Lilley will identify strategic areas to receive special funding that will take Baylor to top-tier status.

I look forward to seeing you all during Homecoming weekend.

PUBLICATIONS:

Nordt, L., Orosz, M., Driese, S., and Tubbs, J. (in press). Vertisol carbonate properties in relation to mean annual precipitation: Implications for paleoprecipitation estimates. *Journal of Geology*.

Prochnow, S., Atchley, S., Boucher, T., Nordt, L, and Hudec, M. (in press). Paleosol evidence for tracking the evolution of salt-withdrawal minibasins in eastern Utah. *Sedimentology*.

Nordt, L., von Fischer, J., and Tieszen, L. (tentative acceptance). New late Quaternary temperature record for the North American Great Plains: Evidence from a buried soil isotopic paleothermometer. *Geology*.

Prochnow, S., Nordt, L., Atchley, S., and Hudec, M. (2006). Multi-proxy paleosol evidence for middle and late Triassic climate trends in eastern Utah. *Palaeogeography Palaeoclimatology Palaeoecology* 232:53-72.

Nordt, L. (2006). Soils and Paleosols. **Online Glossary of Geologic Terms**. American Geophysical Institute (Mehl, J. and Jackson, J., eds).

Dworkin, S., Nordt, L., Atchley, S. (2005). Determining terrestrial paleotemperatures using the oxygen isotopic composition of pedogenic carbonate. *Earth and Planetary Science Letters* 237:56-68.

Driese, S., Nordt, L., Lynn, W., Stiles, C., Mora, C., and Wilding, L. (2005). Distinguishing climate in the soil record using chemical trends in a vertisol climosequence from the Texas Coastal Praire, and application to interpreting Paleozoic paleosols in the Appalachian Basin. *Journal of Sedimentary Research* 75:339-349.

Prochnow, S., Nordt, L., Atchley, S., Hudec, M., and Boucher, T. (2005). Triassic paleosol catenas associated with a salt-withdrawal minibasin in southeastern Utah, U.S.A. *Rocky Mountain Geology* 40:25-49.

PRESENTATIONS, LECTURES, AND OTHER SCHOLARLY/ CREATIVE ACTIVITIES:

Nordt,, L. (2006) Late Quaternary vegetation and temperature change in the central Great Plains based on the isotopic composition of buried soils. Invited Lecture, University of Kansas Stratigraphy Series.

Nordt, L, Orosz, M., and Driese, S. (2005). Vertisol carbonate properties in relation to mean annual precipitation: Implications for paleoprecipitation estimates. Geological Society of America Annual Meeting, Salt Lake City, Utah (October).

Prochnow, S., Nordt, L., Atchley, S., and Hudec, M. (2005). Multi-proxy paleosol evidence for middle and late Triassic climate trends in eastern Utah. Geological Society of America Annual Meeting, Salt Lake City, Utah (October).

Atchley, S., Nordt, L, Dworkin, S. (2005). Composite mechanisms for terrestrial environmental variability and their relationship to alluvial sequence stratigraphy: the K/T succession in west Texas, USA, and south-central Alberta, Canada. Geological Society of America Annual Meeting, Salt Lake City, Utah (October).

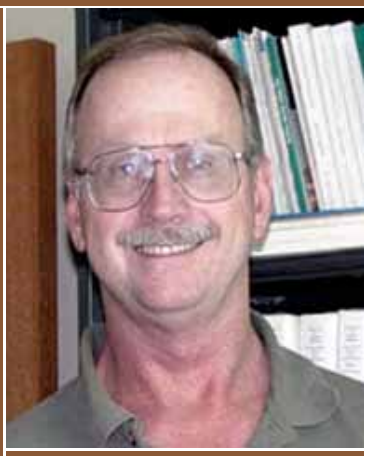
Driese, S. and Nordt, L. (2005) Geochemical changes across a vertisol climosequence of the coast prairie of Texas. Soil and Landuse Workshop, Texas A&M University, College Station (February).

Bongino, J., Nordt, L., Benedict, A., and Forman, S. (2005). Pleistocene stratigraphy for interpreting the timing and cause of death at the Waco Mammoth site. Second International Congress The World of elephants. Hot Springs, South Dakota (September).

GRANTS, CONTRACTS, PATENTS, SOFTWARE COPYRIGHTS:

Petroleum Research Fund - The interrelationship of sequence stratigraphy, paleoclimatology, and terrestrial ichnology in Triassic paleosol-bearing alluvial successions, Moenkopi and Chinle Formations, southwestern United States (S. Atchley and L. Nordt), submitted December.

DON PARKER


Dr. Don Parker

The pair of destructive hurricanes that struck the Gulf coast of Louisiana, Mississippi, and Texas last fall was the costliest natural disaster for the United States in the last 100 years, if not of all time. Katrina flooded New Orleans and launched a tidal wave of hundreds of thousands of evacuees, many of whom sought refuge in Texas.

The debate continues over the responses of Federal and Louisiana authorities to Katrina, but the response of the State of Texas was immediate and generous. Within hours, State and County agencies responded by dispatching resources to impacted areas and by opening shelters for the fleeting populace. Because the Texas National Guard was greatly involved in either fighting in Iraq, or just returned from Iraq, or preparing to go to Iraq, Governor Perry called the Texas State Guard, a volunteer force of National Guard Auxiliaries, to active duty.

Every once in a while, people get swept up in events much larger than themselves. About nine years ago, I joined the Texas State Guard for personal reasons. I found myself involved in civic activities such as guarding festivals, air shows, and Wildlife Expositions, as well as providing crowd control for humanitarian efforts such as Coats for Kids. In short, I found myself doing worthwhile things for my community. When a Hurricane Relief effort was envisioned, we planned on helping the Red Cross established and run shelters that we expected to be open for a few days to a week or so.

When Katrina, a Category Five storm, approached New Orleans, we received a warning order to stand to. It struck on Aug. 29, my 57th birthday. At first, it appeared that New Orleans had, again, dodged the bullet, and we were told to stand down. About 24 hours later, we were told to stand again, and volunteers were requested for a four day mission to support counties in southeast Texas that were experiencing the first impacts of evacuees. It was obvious to me that the flooding of New Orleans, long predicted by geologists, had finally occurred. I volunteered for the mission.

We assembled at Camp Mabry in Austin at 0530 hrs. on Thursday, Sept. 1, and formed a convoy for travel. Other Central Texas soldiers convoyed from other locales. We arrived at the Ford Arena in Beaumont in the early afternoon, and immediately deployed in support of the Houston State Guard Unit, which was already working. I was assigned as Liaison officer at our command post in the EOC (Emergency Operating Center), which was headed up by the County Judge of Jefferson County. We were in sporadic communication with some of our satellite units, which had set up shelters in surrounding counties.

Because Interstate 10 runs directly from New Orleans to Beaumont, we were the first stop for evacuees. Ford Arena could only support about 1,500 people, so we housed them for a short time and sent them on to other localities, such as the Astrodome in Houston. These people owned cars, so they needed gas and travel money to be sent on. The people of Jefferson County were incredibly generous: restaurants cooked and distributed free meals, furniture companies donated mattresses. Wal-Mart was especially generous sending truck loads of supplies. Not everybody used the shelters – you could see suburbanite families around in their SUVs, staying in motels and burning the plastic to get by.

We spent the first night sleeping in the seating area of the Arena. The next day, I helped arrange quarters for our troops at the North End Baptist Church. The Church welcomed Hispanic evacuees into their community building, and put us upstairs in their large Youth room. The North End Church was very generous with everyone and was later written up for this in the Wall Street Journal. Friday night, when our shift had been on our cots for a few hours, we received an order to come back to the Arena. Five buses were arriving from the Superdome in New Orleans. Rumors of violence at the Superdome had preceded the arrival of these evacuees and more security was asked from us. We lined up at the Arena in the middle of the night and helped the Superdome people off the buses, where they were searched for weapons. As it turned out, these people were the neediest of all those we worked with; many were emaciated and ill, although there were some obvious gang members mixed among others.

On Saturday, we received a warning order that we might be called to active duty and later, the actual order arrived. The enormity of the catastrophe was becoming obvious. We were to be redeployed to San Antonio to support the San Antonio State Guard unit to help the city and the Red Cross set up and run large shelters for thousands of people at KellyUSA, the former Kelly Air Force Base. The plan was to airlift people from Lackland Air Force Base, which adjoins Kelly, to other states if need be.

We worked with the San Antonio Police Department in providing security for these thousands of evacuees. Once again, the generosity of the City of San Antonio and businesses, especially H.E.B., was evident. Health problems were a concern- everyone had the "Katrina Krud" — a sort of general upper respiratory infection. Some people, especially those who had been "in the water," had skin infections. I worked in our Tactical Operations Center, co-located with the SAPD Special Operations trailer.

The days dragged on. We had problems with food, family crises resulting from missing spouses, hot weather; flooded operations centers…the evacuees were very pleasant. They were grateful for the help they were receiving, and comforted by our uniforms with the American Flag on the shoulder. In a bit of irony, I found out from the Kelly AFB retirees that my father had worked, as a security guard, in a building less than 100 yards from me.

Back at Baylor, Vince Cronin, Steve Dworkin and John Dunbar had generously taken over my classes. I requested to be released so I could return to work and especially to run a planned field trip for my Volcanology class to Colorado and New Mexico. The job at Kelly began to wind down. FEMA began cutting $2,000 checks and the evacuees began leaving for better quarters as they got some money. I was released after 18 days of active duty.

As my class trip was shopping for some camping gear at a Wal-Mart in Amarillo, I received one last cell phone call, from 2LT Hines. He wanted to know where the TOC was being set up in Austin. We were responding, again, in short notice, to the flood of evacuees from Rita. I thought about my fellow soldiers as we crossed into New Mexico and the Rabbit Ear volcano near Clayton came into view.

JOE YELDERMAN

Dr. Joe Yelderman

HYDROGEOLOGY

Dr. Joe's "brown-eyed girl", Abigail Laura, married Jared White on June 11, 2005. They presently live in the Houston area and Jared is an accountant with Price Waterhouse.

This past year was another busy one for Dr. Yelderman. He continued as Director of the Baylor Wastewater Research Program (BWRP) and is in the process of completing his research funded by the Texas On-site Wastewater Treatment Research Council to study the effectiveness of constructed wetlands as polishing technology for septic tank effluent In addition, Dr. Yelderman and Dr. Bryan Brooks from the Environmental Studies department are part of a grant from the WateReuse Foundation to *Evaluate Wetland Systems for Treated Wastewater Performance to Meet Competing Effluent Quality Goals*. Dr. Yelderman has three (3) students currently working on MS degrees with the BWRP, Pablo Davila is working on the submerged-bed wetland study, Ron Suchecki is studying nutrient reduction and Sammy Rodriguez is comparing effluent toxicity. Jason Weckbacker is a new MS candidate in the geology department who is studying the effects of groundwater recharge on traditional on-site sewage system leach fields. Jason comes to Baylor from Northeastern University in Boston where he took classes from alumnus Dr. Todd Fritch. Dr. Yelderman's MS students presented their work at the National On-site Wastewater Recycling Association (NOWRA) meeting in Denver and the Water Environment Federation Technical Exhibition and Conference in Dallas.

Dr. Yelderman attended the 14th annual Texas On-Site Wastewater Treatment Research Council Conference in Waco, Texas, March 6-8, 2006, where he made 2 oral presentations and led 2 field trips. He also attended the 2nd annual Groundwater summit in San Antonio, Texas, April 23-27, 2006, where he made an oral presentation and attended a short course on Ground-water Management. He also attended the USEPA/NGWA workshop on Characterization and Remediation of Contaminated Ground Water in Fractured Rock, September 28, 2005 in Portland, Maine, where he presented work coauthored by former student, Brian Clark, who now works for the United States Geological Survey

Dr. Yelderman was awarded a mid-level URC grant ($5,840) for a study entitled "A Comparison of Whole Effluent Toxicity among Aerobic, Septic and Submerged-bed Wetland OSSFs."

Dr. Yelderman served on the checklist committee of the Central Texas Audubon Society which published the *Checklist of Birds for McLennan County*. Dr. Yelderman continues to teach Sunday School at Columbus Avenue Baptist Church. Diane (wife) is teaching Kindergarten at North Waco Elementary. Logan (son #2) graduated from Midway High School and is a freshman at Baylor this fall (Empty Nest!!!!). Cal (son #1) is a senior English major at Baylor. Married daughter, Abigail White, lives in Houston where she works for MarCom Advertising as a media traffic coordinator. Dr. Yelderman's mother, Ada Frances, still resides at Alterra Sterling House on Lake Shore Drive. The Yeldermans live at 706 Woodland West, Woodway, Texas. Visitors are always welcome.

Jason Weckbacker collecting soil samples

Placing bentonite clay below the wetland liner

Sammy Rodriguez collecting toxicity samples

Submerged-bed wetland

Jason Weckbacker (standing) and Sammy Rodriguez assessing Septic tank for dosing Jason's columns.

Pablo and Sammy leading the field trip for the TCEQ

Pablo Davila planting irises in the wetland

BIOGRAPHY OF DR. KENNETH Q. CARLILE, PH.D.

Ken Carlile earned a B.A. degree from Baylor University in 1969 and a Doctorate in Dental Surgery from the Baylor College of Dentistry in 1973. He then changed careers and vocation, earning B.S. and M.S. degrees in Geology degrees from Centenary College in Louisiana, and returned to Baylor University to secure the Ph.D. in Geology in 1996, under the direction of Dr. Harold Beaver. His Ph.D. dissertation was entitled "Structural, depositional, and diagenetic analysis of the Pennsylvanian Morrow within the Cedar Lake area in the Delaware Basin of southeast New Mexico".

Dr. Carlile is Co-Owner of The Carlile Companies, which consist of Martex Drilling Company; Martex Well Services, Inc.; Unitex Properties, Inc.; Camterra Resources, Inc. and Martex Bancshares. Martex Bancshares is a bank holding company for eight East Texas banks which merged with the interstate Hibernia National Bank in 1999. From 1977 to 1990, he served as co-owner of Marshall Exploration, Inc. and manager of the Exploration Program which drilled approximately 500 wells in Texas, Louisiana, Arkansas and Mississippi. In 1990, Marshall Exploration, Inc. merged with Southern Natural Gas (Sonat), then El Paso Gas. Currently, Dr. Carlile is co-owner of Camterra Resources, Inc., which operates in four states and the Gulf of Mexico.

Previously, he served as Chairman of the Texas Department of Commerce. He was a member of the Interstate Oil & Gas Commission, the Texas Commission on the Arts, the Texas Cultural Trust Council and the United Methodist Church Foundation. Dr. Carlile chaired both the Baylor University Development Council and the Sesquicentennial Campaign. He has served on the Baylor College of Arts and Sciences Advisory Board and the Geology Advisory Board. He previously served as a member of the McLane Student Life Complex Steering Committee. He was selected as a Distinguished Alumnus of Baylor University in 2003.

Dr. Carlile serves in various community organizations and is a member of the First United Methodist Church of Marshall, TX. He is married to the former Celia Choate and they have two sons, Zachary (Baylor 1996) and Cameron (Vanderbilt 1999), and grand children, Virginia and Quinton.

Ken Carlile has been a strong supporter and benefactor for Baylor University and for the Geology Department in particular for many years. This spring of 2006, after making an initial gift in December of 2005 to support badly needed renovations of the Carlile Geology Research Building, he made an additional pledge to support construction of the Beaver-Brown Applied Petroleum Studies laboratory in the Baylor Sciences Building, as well as to establish the Kenneth Q. and Celia Carlile Endowed Scholarship Fund. In recognition of the cumulative gifts that Ken has made to the sciences at Baylor University during his lifetime, Baylor has agreed to reserve the naming of the Baylor Sciences Building Atrium in his honor.

Cover Story

A ROOF OVER THE ROCKS

The Carlile Geology Research Building receives a new roof thanks to a generous gift from Dr. Ken Carlile

This summer work was completed to add a new metal roof (in Baylor green) to the existing flat roof on the Carlile Geology Research Building. In addition to the roof, the work involved construction of a large number of trusses, Baylor green metal siding, fascia and guttering (see photo on front cover this newsletter). The results are architecturally attractive and more importantly, are watertight so as to ensure that there will be no additional water damage to the interior and contents. The work was contracted by Baylor University to Pearson construction, which completed the job just before the Labor Day holiday.

Further plans include remediation of mold-damaged flooring, ceiling tile, and sheetrock, as well as replacement of the existing cooling/heating system, which is no longer efficient and also mold-prone. Plans were also prepared by rbdr Architects for a possible future interior renovation that would involve redesign of the interior lab and equipment storage spaces. The Carlile Geology Research Building is a structure that provides essential space for Geology Department activities not provided in the Baylor Sciences Building - thank you Ken!

JEAN M. SPENCER-JENNESS GEOLOGY LIBRARY ENDOWMENT ESTABLISHED

About Jean M. Spencer-Jenness and her relationship to Baylor Geology

Jean M. Spencer started taking courses part-time at Baylor in 1955, a year after moving to Waco with her husband Bruce Spencer, a medical doctor, and their two young sons. She enjoyed her first geology classes so much that she decided to take further courses, ultimately obtaining her B.S. Cum Laude in Geology in January 1961 and her M.S. in Geology with similar academic distinction in 1964. During her graduate years she worked voluntarily in the Department as time permitted. The Department then hired her as Assistant Editor of its Baylor Geological Bulletin Series. Two years later she was appointed Editor as well as half-time Instructor in geology, soon being promoted to Assistant Professor. She taught Earth Science courses to the students preparing to become school teachers. She always enjoyed teaching, the easy-going camaraderie of her geology colleagues, O.T. Hayward's geology field trips, and providing quiet sage council to students who periodically came to her office with their problems.

Jean continued teaching and editing until the summer of 1978, when she got a divorce and moved to Virginia to be nearer to her older son and her brother. Two years later she married a Canadian, Dr. Stuart E. Jenness, also a geologist, and moved to Ottawa, Canada, from where she continued to edit the Baylor Geological Bulletins for several years while working as Assistant Editor for the IUGS (International Union of Geological Sciences). After her retirement in 1989, she and Stuart wintered in San Antonio then Southlake, Texas, until 2002, from where they made annual visits to the Baylor Geology Department. In 2002 she was stricken with cancer and passed away the following year.

In 2005, with encouragement from Jean's family, Stuart arranged for the establishment of the Jean M. Spencer-Jenness Geology Library Endowment at Baylor as a perpetual academic memorial to Jean and a thank you to the Geology Department and the University for their gifts of knowledge and experiences given to her. The endowment will provide funds annually to specifically purchase geological literature for the Baylor University Library. Ten geology books were thus acquired in 2005. The fund is open-ended and would welcome donations to render it self-perpetuating and thereby increase its benefits to the Department and all future geology students.

[Contributed by her husband, Dr. Stuart Jenness, May 22, 2006]

Jean Spencer, Butte, Montana area, 1978

Jean Spencer-Jenness on Portland limestone on south coast of England near Swanage, 1980

JAMACIA RESEARC

Discovery Bay, Jamaica

Dr. Steve Dworkin, Marie Maher and Alison Macari at Duns River Falls

Dr. Dworkin and Allison Macari in Jamaica

Emyris Short at Duns River Falls

Dr. Steve Dworkin, Alison Macari, Marie Maher and Isaac Westfield at Duns River Falls

Investigating beach processes in Jamaica

H TRIP MAY, 2006

Emyris Short, Marie Maher and Dr. Rena Bonem, along with their guide, study the volcanic boulders at Annotto Bay

Marie Maher, Emyris Short and Isaac Westfield touring the rainforest

First row: Isaac Westfield, Marie Maher, Alison Macari and Emyris Short. Top: Dr. Steve Dworkin at Duns River Falls

Emyris Short standing by a monument commemorating Columbus' landing in 1494, in Columbus Park

The group at Duns River Falls

The group on a check out dive

ALUMNI DONATIONS

Marlow Anderson-Newton

My motivation in donating time and money to the Baylor Geology department is the realization of how fortunate I am in my life and career. I believe I have a responsibility to give back because I know the benefits I have today are largely due to the sound, practical foundation of technical and communication skills I received through the Geology professors in the graduate program. I truly want other individuals to have this same opportunity.

In addition, the oil and gas industry is currently experiencing a drain of seasoned technical resources which will heighten in the next 5-7 years.
Therefore, it is critical that universities are developing and producing high quality graduates. I strongly desire the Baylor Geology department maintain their reputation of excellence for quality students.

I am forever grateful for this opportunity and experience.

Cindy Smith

Donates $50 each year for a deserving young woman for summer field camp expenses. "I was reading the Baylor Magazine and although I hadn't thought about this before, I had a very clear thought that I needed to send funds to help a girl geology student with summer field camp" states Cindy. She forgot one year and sent two at a time and stated, "Hopefully God has just the right situation in mind, his timing is so much better than mine." She remembered that Paulette's last note thanking her stated that she immediately had someone in mind and Cindy prayed that Paulette's decision would be easy and clear; there were two needy young woman that year by the way and only two.

Dr. Robert Font, President

Geoscience Data Management, Inc.

The Geology Department at Baylor University certainly has a special place in my heart. Not only am I fortunate to have two of my three degrees from this prestigious university, but I also had the privilege to form part of its geology faculty from 1973 through 1981. Baylor combines Christian values, academic excellence and a special camaraderie and esprit de corps that I hold dear.

Sandra Walker

"Given in honor of my son, William (Bill) Walker, BS '04 and MS '06; my husband Cliff, MS '73, and my brother-in-law Jimmy Walker, MS '76. Thanks to all who aided in the education of these Walker boys!"

DEPARTMENT ACCOMPLISHMENTS

Report of Baylor University Geology Department, Faculty and Student Research Accomplishments

2005 Calendar Year

Faculty Publications (underline = Baylor Geology Faculty)

(1) *Allen, P.M., Harmel, R.D., Arnold, J.G., Plant, B., Yelderman, J., and King, K.W., 2005, Field data and flow system response in clay (vertisol) shale terrain, north central Texas, USA: ***Hydrological Processes***, v. 19, p. 2719-2736.

(2) **Allen, P.M., Arnold, J.G. and Skipwith, W., 2005, Methods to evaluate urban stream channel erosion with examples from central Texas: ***Proceedings Paper, International Erosion Control Association***, Dallas, Texas.

(3) **Allen, P.M., Arnold, J.G., Skipwith, W., and Berman, S., 2005, SWAT-DEG and channel restoration of urban streams: ***Proceedings Paper, International SWAT Conference Zurich Switzerland***.

(4) **Atchley, S. C., Johsson, E., and Kahmann, J., 2005, Production optimization of the Mississippian Pekisko Formation at Twining Field, Alberta, as guided by a detailed sequence stratigraphic framework: Sponsored by Pengrowth Corporation.

(5) *Driese, S.G., Li, Z.-H., and Horn, S.P., 2005, Late Pleistocene to Holocene paleoclimate and paleogeomorphic history interpreted from 23,000 14C yr B.P. paleosol and floodplain soils, southeastern West Virginia, USA: ***Quaternary Research***, v. 63, p. 136-149.

(6) *Driese, S.G., Nordt, L.C., Lynn, W.C., Stiles, C.A., Mora, C.I., and Wilding, L.P., 2005, Distinguishing climate in the soil record using chemical trends in a Vertisol climosequence from the Texas Coastal Prairie, and application to interpreting Paleozoic paleosols in the Appalachian basin: ***Journal of Sedimentary Research***, v. 75, p. 339-349.

(7) *Driese, S.G., and Ober, E.G., 2005, Paleopedologic and paleohydrologic records of precipitation seasonality from early Pennsylvanian "underclay" paleosols, U.S.A.: ***Journal of Sedimentary Research***, v. 75, p. 999-1012.

(8) ** Dunbar, J. A., Allen, P.M., and Hensen, H., 2005, Water and sediment survey of Lake Holdenville, Hughes County, Oklahoma, Report to the City of Holdenville.

(9) **Dunbar, J. A., Allen, P.M., and Hensen, H., 2005, Water and sediment survey of Lake Abilene, Taylor County, Texas, Report to the NRCS and the City of Abilene.

(10) *Dworkin, S. I., Nordt, L.C., and Atchley, S.C., 2005, Determining terrestrial paleotemperatures using the oxygen isotopic composition of pedogenic carbonate: ***Earth and Planetary Science Letters***, v. 237, p. 56-68.

(11) *McKay, L.D., Driese, S.G., Smith, K.H., and Vepraskas, M.J., 2005, Hydrogeology and pedology of saprolite formed from sedimentary rock, eastern Tennessee, USA: ***Geoderma***, v. 126, p. 27-45.

(12) *Parker, D.F., Ghosh, A., Price, C.W., Rinard, B.D., Cullers, R.L., and Ren, M., 2005*, Origin of rhyolite by crustal melting and the nature of parental magmas in the Oligocene Conejos Formation, east-central San Juan Mountains, Colorado, U.S.A.: ***Journal of Volcanology and Geothermal Research***, v. 139, p. 185-210.

(13) *Prochnow, S. J., Nordt, L.C., Atchley, S.C., Hudec, M., and Boucher, T., 2005, Triassic paleosol catenas associated with a salt-withdrawl minibasin in southeastern Utah, U.S.A.: ***Rocky Mountain Geology***, v. 40, p. 35-59.

(14) **Tracy, C. J., Allen, P. M., and Dunbar, J. A., 2005, Dredging versus New Reservoirs, Report to the Texas Water Development Board, TWDB Contract #2004-483-534, 91 p., Alan Plummer Associates, Inc.

(15) **Volk, M., Allen, P.M., and Arnold, J., 2005, Towards a process-oriented HRU-concept in SWAT: Catchment-related control on baseflow and storage of landscape units in medium to large river basins: ***Proceedings Paper, International SWAT Conference***, Zurich Switzerland.

(16) *White, J.C., Ren, Minghua, and Parker, D.F., 2005, Variation in mineralogy, temperature, and oxygen fugacity in a suite of strongly peralkaline lavas and tuffs, Pantelleria, Italy: ***Canadian Mineralogist***, v. 43, p. 1331-1347.

* = peer-reviewed
** = proprietary reports or proceedings (not peer-reviewed)
*** = text or lab book

Faculty and Student Presentations (underline = Baylor Geology Faculty)

(1) Allen, P.M., 2005, Methods to evaluate urban stream channel erosion with examples from central Texas (with W. Skipwith and others): International Erosion Control Association Annual Meeting in Dallas, Texas.

(2) Allen, P.M., 2005, Channel stability assessment: TRRMS invited symposium talk at Baylor University.

(3) Allen, P.M., 2005, SWAT-DEG and channel restoration of urban streams: Talk at International SWAT Conference in Zurich, Switzerland.

(4) Allen, P.M., 2005, Laboratory pesentation on evironmental geology: Applications in urban landscapes: Environmental stratigraphy (ForSed): Invited Presentation at NSF workshop Minneapolis Minn., University of Minnesota St. Anthony Falls.

(5) Allen, P.M., and Dreyer, B., 2005, Field trip for Texas section Association of Environmental and Engineering Geologists for 60 geologists at Canyon Lake, on geology and spillway erosion.

(6) Atchley, S.C., 2005, University of Nebraska, Lincoln, Schramm Chair short-course instructor on the topic of "Applied Carbonate Sequence Stratigraphy", in Canmore, Alberta, Canada, June 23, 2005.

(7) Atchley, S.C., Nordt, L.C., and Dworkin, S.I., 2005, Composite mechanisms for terrestrial environmental variability and their relationship to alluvial sequence stratigraphy: the K/T succession in west Texas, USA, and south-central Alberta, Canada: 2005 GSA Annual Meeting.

(8) Atchley, S.C., West, L.W., and Sluggett, J.R., 2005, Rejuvenation of a mature oil field: the Devonian Leduc Formation at Innisfail Field, south-central Alberta, Canada: American Association of Petroleum Geologists, v. 89, p. A7.

(8) Bayliss, B., and Cronin, V.S., 2005, Test of a method for recognizing previously unmapped seismogenic faults: Poster presentation at the GSA Annual Meeting.

(9) Bonem, R.M., 2005, Caribbean Reef Change: Bottom Time Dive Club, Waco, Texas.

(10) Bongino, J., Nordt, L., Benedict, A., and Forman, S., 2005, Pleistocene stratigraphy for interpreting the timing and cause of death at the Waco Mammoth site: Second International Congress, The World of elephants, Hot Springs, South Dakota.

(11) Bruner, M.R., Prochnow, S.J., Bonem, R.M., Cawthorn, T.M., Ryan, J.D., and Zygo, L.M., 2005, Spatial analysis and visualization of Lower Cretaceous trackways in Dinosaur Valley State Park, Central Texas: South-Central GSA Meeting.

(12) Cronin, V.S., 2005, Code in Mathematica to account for the horizontal and vertical errors in hypocenter location, when projecting an earthquake focal mechanism solution to the ground surface, as represented by a DEM.

(13) Cronin, V.S., 2005, Beginning the hunt for active faults along the Malibu coastline: invited colloquium presentation at the Department of Geology, Texas A&M University, spring 2005.

(14) Cronin, V.S., 2005, Geochronology lab for an introductory physical geology course: Poster presentation at the GSA Annual Meeting.

(15) Cronin, V.S., Bayliss, B., Zygo, L., and Byars, B.W., 2005, Progress report on development of methods for recognition of seismogenic faults: GSA Annual Meeting.

(16) Driese, S.G., 2005, Distinguishing climate and time in the soil record using modern Vertisol climo- and chronosequences from Texas, and application to interpreting Paleozoic paleosols in the Appalachian basin: (talk presented at 42nd Annual Soil Survey and Land Resource Workshop in College Station, TX).

(17) Driese, S.G., 2005, Distinguishing climate and time in the soil record using modern Vertisol climo- and chronosequences from Texas, and application to interpreting Paleozoic paleosols in the Appalachian basin: (talk presented at Miami University of Ohio, Department of Geology).

(18) Driese, S.G., 2005, Distinguishing climate and time in the soil record using modern Vertisol climo- and chronosequences from Texas, and application to

interpreting Paleozoic paleosols in the Appalachian basin: (talk presented at University of Texas-Dallas, Department of Geological Sciences.

(19) Driese, S.G., Orvis, K.H., Horn, S.P., Li, Z.-H., and Dworkin, S.I., 2005, Paleosol evidence for uplift and for climate and ecosystem changes in the Cordillera Talamanca, Costa Rica: GSA Annual Meeting.

(20) Dworkin, S.I., 2005, Origin of radiogenic Sr in surface waters in of central Texas, Geochimica et Cosmochimica Acta, Goldschmidt Conference Abstracts, v. 69, p. A603 suppl.

(21) Dworkin, S.I., 2005, "Oxygen isotopes in pedogenic carbonates" and "The impact of dust on near surface geochemical processes": talks presented at Indiana University, Bloomington, IN.

(22) Dworkin, S.I. and Mack, L.E., 2005, Cycling of calcium by dust: GSA Annual Meeting.

(23) Garcia, S., Clubbs, R.L., Scheffe, B.L., Yelderman, J.C. Jr., and Brooks, B.W., 2005, Wastewater effluent quality: a comparative analysis of municipal and on-site systems, Texas Academy of Science, Edinburgh, Texas, Abstract.

(24) Geary, J. R., and Atchley, S.C., 2005, Controls on hydrocarbon entrapment and reservoir distribution: the Pennsylvanian Oswego Limestone and Big Lime Limestone in the Putnam Field Area, Anadarko Basin, Oklahoma: American Association of Petroleum Geologists, v. 89, p. A50.

(25) Goforth, T.W., 2005, "Characteristic of regional seismograms produced by delay-fired explosions at the Minntac Iron Mine, Minnesota": talk presented at Southern Methodist University.

(26) Greene, D.M., 2005, "The Fifth Season", a severe weather special for KXXV – TV: completed taping on April 8, 2005.

(27) Hover, V.C., Ashley, G.M., Driese, S.G., Owen, R.B., and McBrearty, S., 2005, Authigenic Mg-rich smectite and 10-A clay minerals in East African Rift –Valley lacustrine sediments: What do compositions tell you about geochemical depositional environments?: Clay Mineral Society Annual Meeting.

(28) Kahmann, J.A., and Driese, S.G., 2005, Late Mississippian climate changes recorded in the Pennington Formation, Pound Gap outcrop section, Kentucky, USA: GSA Annual Meeting.

(29) Koenig, J., Kahmann, J., Atchley, S.C., Sluggett, J.R., and West, L., 2005, Geological risk assessment of development opportunities within the Devonian Leduc Formation at Sturgeon Lake South Field, Alberta, Western Canada Sedimentary Basin: American Association of Petroleum Geologists, v. 89, p. A75.

(30) Nordt, L.C., Orosz, M.T., and Driese, S.G., 2005, Depth-to-carbonate (DTC) from modern soils and estimations of mean annual precipitation (MAP) from paleosols: One size does not fit all!: GSA Annual Meeting.

(31) Prochnow, S. J., Nordt, L.C., Atchley, S.C., and Hudec, M., 2005, Multi-proxy paleosol evidence for Triassic climates in eastern Utah: 2005 GSA Annual Meeting.

(32) Scheffe, B., and Yelderman, J.C. Jr., 2005, PET Plastics as an alternative substrate material in subsurface flow constructed wetlands for on-site treatment of septic tank effluent, Ground Water Summit, National Ground Water Association, San Antonio, Texas.

(33) Scheffe, B., and Yelderman, J.C. Jr., 2005, PET Plastics as an alternative substrate material in subsurface flow constructed wetlands for on-site treatment of septic tank effluent, Soil Survey and Land Resource Workshop, Texas A&M University, College Station, Texas.

(34) Walker, W.M, Sralla, B., and Cronin, V.S., 2005, A reassessment of the possible activity of the Criner Hills fault, south-central Oklahoma: Poster presentation at the GSA Annual Meeting.

(35) Yelderman, J.C. Jr., 2005, Teaching hydrogeology at outcrops: Road cuts and gravel pits seen differently: Workshop on teaching hydrogeology in the 21st Century, Lincoln, Nebraska.

(36) Yelderman, J.C. Jr., 2005, Installing mini-piezometeres: with and without seepage meters: Workshop on teaching hydrogeology in the 21st Century, Lincoln, Nebraska, demonstration (presented twice).

(37) Yelderman, Joe C., Jr., and Clark, Brian, 2005, The effect of recharge pulses on ground water flow rates and travel distances in shallow fractured flow systems: National Groundwater Association Focus Conference on eastern Regional Ground water Issues, Portland, Maine.

(38) Yelderman, Joe C. Jr., and Ali Al-Nahari, 2005, Subsurface dams as a wastewater treatment polishing process, Soil Survey and Land Resource Workshop, Texas A&M University, College Station, Texas.

Grants, Contracts and Software Patents AWARDED (underline = Baylor Geology Faculty)

(1) Atchley, S.C., 2005, Production optimization of the Mississippian Pekisko Formation at Twining Field, Alberta, as guided by a detailed sequence stratigraphic framework. Pengrowth Corporation, June-August 2005, $41,000.

(2) Dunbar, J.A., and Allen, P.M., 2005, Sediment Survey, Lake Abilene, Taylor County, Texas, City of Abilene, award funded in September 2005, $9,629.

(3) Dunbar, J. A., and Allen, P.M., 2005, Sediment Survey, Texas Flood Control Reservoirs, NRCS, Funded, September, 20005, $20,000.

(4) Allen, P.M., Dunbar, J.A., 2005, Sedimentation Study of Cedar Creek Watershed, Texas Water Resources Institute, Subcontract through Specialty Devices, Inc., Funded December, Funded, December 2005, $20,000.

(5) Allen, P.M., and Dunbar, J.A., 2005, 3rd year of three year grant with USDA ($203,000)

(6) Allen, P.M., and Dunbar, J.A. (and others), Contract with federal government on Lake Whitney ($1.1M)

(7) Dworkin, S.I., 2005, The impact of dust on water chemistry in Central Texas, Baylor URC, funded October 1, 2005 through May 31, 2006, $2,990.

(8) Goforth, T.W., 2005, URC grant of $1660 to support sabbatical.

(9) Parker, D.F., 2005, Geochemistry of Forearc Volcanic Rocks, Oregon Coast Range, URC, awarded 20 April 2005, project period 1 June 2005- 31 May 2006, $1300

(10) Yelderman, J.C., Jr., 2005, Study to test constructed wetlands under ANSI/NSF Standard 40 criteria: Texas On-site Wastewater Treatment Research Council, awarded October 2005, $100,190

(11) Yelderman, J.C., Jr., 2005, Awarded extension of the nutrient reduction study for OSSF aerobic systems: Murphy Cormier, Inc., awarded December 2004 through May 2005, $10,000

(12) Yelderman, J.C., Jr., 2005, Awarded extension of the nutrient reduction study for OSSF aerobic systems: Murphy Cormier, Inc., awarded July 2005 through June 2006, $25,594

(13) Yelderman, J.C., Jr., 2005, Texas in situ uranium: The early boom years: Institute for Oral History: January 2005 through fall 2005, $2,500

(14) Yelderman, J.C., Jr., 2005, Awarded a mid-level URC grant for the study entitled "A comparison of whole effluent toxicity among aerobic, septic and submerged-bed wetland OSSFs.", $5,840

Grants, Contracts and Software Patents SUBMITTED (underline = Baylor Geology Faculty)

(1) Atchley, S.C., and Nordt, L.C., 2005, The interrelationship of sequence stratigraphy, paleoclimatology, and terrestrial ichnology in Triassic paleosol-bearing alluvial successions, Moenkopi and Chinle Formations, southwestern United States: submitted to American Chemical Society, Petroleum Research Fund, submitted in December and pending, $80,000.

(2) Driese, S.G., and Parker, D.F., 2005, Acquisition of a wavelength-dispersive XRF instrument for Department of Geology, Baylor University: submitted to NSF Instrumentation and Facilities program ($123,619 requested for one year, commencing January 1, 2006). **NOT FUNDED**

(3) Driese, S.G., 2005, Technician support: XRF and other analytical instrumentation for Department of Geology, Baylor University: submitted to NSF Instrumentation and Facilities program ($166,262 requested for three years, commencing January 1, 2006). **NOT FUNDED**

(4) Dunbar, J.A., Allen, P.M., Driese, S.G., and Dworkin, S.I., 2005, Sediment and nutrient trapping by aging flood control reservoirs: submitted to USDA-NRI, Watersheds Program ($440,332 requested for 3 years, commencing September 1, 2005) **NOT FUNDED**

(5) Dunbar, J.A. and Allen, P.M., 2005, Sediment coring water reservoirs within the Lower Colorado River basin: Palo Pinto, Buchanan, and Travis, Texas Water Development Board, $18,000, pending, December, 2005.

(6) Dworkin, S.I., 2005, Improving environmental quality for residents of Waco and the central Texas Region, Rapoport Foundation, (submitted September 10, 2005, $335,126 requested) **NOT FUNDED**

(7) Yelderman, J.C., Texas in-situ uranium: The early boom years: Institute for Oral History, December 2004 through fall 2005 $2,500

STUDENT ACCOMPLISHMENTS 2005-2006

CONGRATS to Baylor Geology Graduate Students!

We have great news to report! The following Geology graduate students received notification of receipt of awards of grants in aid of research in April, May and June of 2006:

from the Geological Society of America (National GSA student grants-in-aid-of-research success rate was 48 percent — Baylor Geology had > 80 percent success rate)
Sikiru Amidu (Ph.D.)
John Bongino (M.S.)
David Cleveland (Ph.D.)
Julia Kahmann (Ph.D.)
Lauren Seidman (M.S.)
Aaron Shunk (Ph.D.)

from the American Association of Petroleum Geologists (AAPG)
Marie Maher (M.S.)
Mark Millard (M.S.)

from the Southwestern Section of the AAPG
David Cleveland

from the Fort Worth Geological Society
Marie Maher (M.S.)

from the Colorado Scientific Society
Debra Jennings (Ph.D.)

from Sigma Xi, the Scientific Society
Lauren Seidman (M.S.)

from the J. David Love Field Geology Fellowship
David Cleveland (Ph.D.)

In aggregate, these awards total over $23,500!

GREAT JOB STUDENTS AT SECURING RESEARCH FUNDING!

Steve Driese

Graduate Students

Congratulations to our students who completed their graduate degrees in Geology this year!

December 2005

Shane J. Prochnow — PhD: Paleosols as an Indicator of Ancient Landscapes, Climates and Stratal Response During the Triassic: The Salt Anticline Region of Utah

Tara Stanton Cooper — Master of Science: Determining the Effects of Local Vegetation on Spring-fed Streams in Carbonate Terrain Through the Use of Remote Sensing Techniques

Janelle Huffman Henry — Master of Science: Impacts of Recharge Estimation on Groundwater Modeling for Arid Basins

Julia A. Kahmann — Master of Science: The Sequence Stratigraphic Evolution of the Sturgeon Lake Bank, Central Alberta, Canada and its Regional Implications.

May 2006

Bill Walker — Master of Science: Structural Analysis of the Criner Hills, South-Central Oklahoma

August 2006

Erika Josson — Master of Science: Controls on Reservoir Continuity and Distribution within the Mississippian Pekisko Formation at Twining Field, South-Central Alberta, Canada

Undergraduate Students

Nathaniel H. Ball — 2006 recipient of Robert T. Hill Award for Academic Excellence in Geology

Mary Margaret Norton and ***Jessica Pritchard*** — Chosen to represent the Geology Department at the annual Honors College Colloquium

Mary Margaret Norton (BA Earth Science), Dr. Steven Driese and Jessica Pritchard (B.S. Geology) at the Spring 2006 Honors College Colloquium

FAMILY CIRCLE

Where are they now?

Suzanne Dahl-Crumpler, Bs 1986, Ms 1990

Suzanne writes to say that she and Dwayne, also a Baylor Geology Alumni, have been married for 17 years and are so grateful for the freshman field trip that they were working on when they met. He was giving a talk and she was working a Coke truck. Suzanne and Dwayne live in Kennewick, Washington, and love the Northwest. They have two busy kids: Lydia (age 5) and Travis (age 8), who wants to be a paleontologist. Both she and Dwayne work at Hanford doing clean-up activities. Suzanne says, "I am the regulator; Dwayne is a contractor which means I regulate him at work as well as at home."

Jeffrey Moore, BS 1995

Jeffrey was recently promoted to geologist at EnCana and is focused on exploring for coal bed methane (CBM) in the Rockies and Gulf Coast regions.

New arrivals

(We missed a year and and are trying to catch up!)

Jason and Rebecca Cipriano — Kylie Anne Cipriano, August 4, 2004

Steve and Clover (Lambert) Clamons — Ivy Evangeline Clamons, August 13, 2004

Stephen and Tonya Cargill — Taylor Paul Cargill, December 22, 2004
(Taylor is Paulette Penney's second grandchild)

Brian and Kandra Clark — Kadin Raine Clark, May 10, 2005

Chris and Julie (Riemenschneider) Legg — Jordan Wesley Legg, June 23, 2005

Edgar and Carrie Covarrubias — Nathan Alexander Covarrubias, July 30, 2005

Fred and Angela (Gaitros) Nawrocki -- Niklas Ronan Nawrocki, August 27, 2005

Shannon and Jamie Ruth — Keri Jo Ruth, November 21, 2005
(Geology administrative associate and her husband)

Jim and Lisa (Zygo) Flynn — James Henry Flynn, January 6, 2006

Mike and Alison (Jones) Nguyen — Gabrielle Thu-Mai Nguyen, March 31, 2006

Joshua & Melissa (Cannon) Lamb — Caleb Nathanael Lamb, May 31, 2006

Farewell to:

Lisa (Zygo) Flynn — She and her family moved to Houston in May 2006. We will miss her greatly. Best wishes to them in their new home.

Condolences to:

Our alumni and friends who suffered losses from Hurricanes Katrina & Rita, we sincerely hope that this newsletter finds you recovered and well without further damage this season.

Tom and Royce Goforth and family on the passing of Royce's father in August 2005

Vince and Cindy Cronin and family on the passing of Cindy's father in November 2005

John and Anna Dunbar and family on the passing of John's father in December 2005

Heidi Hensen Estep and family on the passing of her father in December 2005

Don and Alison Greene and family on the loss of their son, James, in February 2006

BAYLOR GEOLOGY ADVISORY BOARD

First Baylor Geology Alumni Reception – AAPG Meeting, Houston, TX
Monday, April 10, 2006
Four Seasons Hotel, Highlands Room
5:30-7:30 PM

The Baylor Geology Alumni Advisory Board, led by a subcommittee chaired by Ms. Marlow Anderson-Newton, organized an inaugural Baylor Geology Alumni Reception at the 2006 AAPG-SEPM annual meeting held in Houston, Texas. A private room was reserved in the downtown Four Seasons Hotel, and included catered food and refreshments. Invitations were mailed to 160 Houston-area alumni to publicize the event, which was also publicized in the AAPG program under Alumni Events as well as on the Baylor Geology website.

The formal program included a presentation by Dr. Stacy Atchley on the Applied Petroleum Studies (APS) Program at Baylor University, and on efforts to raise funds to construct a new laboratory in the Baylor Sciences Building dedicated to supporting this program. Ms. Erika Josson talked about her very positive experiences at Baylor University as an APS student under Dr. Atchley's direction. Dr. Steve Driese concluded with a presentation on efforts to raise funds to support renovations of the Carlile Geology Research Building, including plans for construction of a new, water-tight roof and a new interior plan. Dr. Vince Cronin set up poster displays highlighting current research by Geology graduate students, which were visited by many attendees. Overall, the consensus was that this was a very positive experience and one that we think should be repeated again, especially for meetings held in Texas where we have a particularly strong alumni base.

In Attendance:

Peter Allen (faculty)
Marlow Anderson-Newton
Stacy Atchley (faculty)
Brian Bayliss (student)
Art Beall
Art Bishop
Sue Bishop
Tom Boucher
Vince Cronin (faculty)
Steve Driese (faculty)
Robert Font
Jim Geary
Mike Hudec
Hank Jamieson
Allison Johanson
Erika Josson (student)
Jon Krystinik
Robyn Marchand
Troy Meinen
Jim Meyerhoff
Mark Millard (student)
Sam Newton
Don Parker (faculty)
Andy Parsons
Bobbye Sue Parsons
Chuck Segrest
Doris Shelton
John Shelton
Cindy Smith
Doug Storey
Stephen Thornhill
Jack Trice
Bill Walker (student)
Bill Walker
Edwin Westergaard
Brian Winter

AAPG Alumni Event, Houston Texas

BAYLOR GEOLOGICAL PUBLICATIONS

Baylor Geological Studies

1. Holloway, Harold D., 1961, The Lower Cretaceous Trinity aquifers, McLennan County, Texas: Baylor Geological Studies Bulletin No. 1 (Fall). *Out of print.*
2. Atlee, William A., 1962, The Lower Cretaceous Paluxy Sand in central Texas: Baylor Geological Studies Bulletin No. 2 (Spring). *Out of print.*
3. Henningsen, E. Robert, 1962, Water diagenesis in Lower Cretaceous Trinity aquifers of central Texas: Baylor Geological Studies Bulletin No. 3 (Fall). *Out of print.*
4. Silver, Burr A., 1963, The Bluebonnet Member, Lake Waco Formation (Upper Cretaceous), central Texas, A lagoonal deposit: Baylor Geological Studies Bulletin No. 4 (Spring). *Out of print.*
5. Brown, Johnnie B., 1963, The role of geology in a unified conservation program, Flat Top Ranch, Bosque County, Texas: Baylor Geological Studies Bulletin No. 5 (Fall). *Out of print.*
6. Beall, Arthur O., Jr., 1964, Stratigraphy of the Taylor Formation (Upper Cretaceous), east-central Texas: Baylor Geological Studies Bulletin No. 6 (Spring). *Out of print.*
7. Spencer, Jean M., 1964, Geologic factors controlling mutations and evolution—A review: Baylor Geological Studies Bulletin No.7 (Fall). *Out of print.*

** 8. Part I: Geology, 1965, Geology and urban development by Peter T. Flawn; Geology of Waco by J. M. Burket: Baylor Geological Studies Bulletin No. 8 (Spring). *Out of print.*

** 9 Part II: Soils, 1965, Soils and urban development of Waco by W. R. Elder: Baylor Geological Studies Bulletin No. 9 (Fall). $5.00.

**10. Part III: Water, 1966, Surface waters of Waco by Jean M. Spencer: Baylor Geological Studies Bulletin No. 10 (Spring). $5.00.

**11. Part III: Water, 1976, Subsurface waters of Waco by Siegfried Rupp: Baylor Geological Studies Bulletin No. 11 (Fall). $5.00.

**12. Part IV: Engineering, 1967, Geologic factors affecting construction in Waco by R. G. Font and E. F. Williamson: Baylor Geological Studies Bull. No. 12 (Spring). *Out of print.*

**13&14. Parts V & VI: 1992, Environmental Atlas of McLennan County by Joe C.Yelderman, Jr. and Robert E. Cervenka: Baylor Geological Studies Bulletin No. 13 & 14 (Spring). $25.00.

15. Boone, Peter A., 1968, Stratigraphy of the basal Trinity (Lower Cretaceous) sands, central Texas; Baylor Geological Studies Bulletin No. 15 (Fall) . $5 .00.
16. Proctor, Cleo V., 1969, The North Bosque watershed, Inventory of a drainage basin: Baylor Geological Studies Bulletin No. 16 (Spring). *Out of print.*
17. LeWand, Raymond L., Jr., 1969, The geomorphic evolution of the Leon River system: Baylor Geological Studies Bulletin No. 17 (Fall). *Out of print.*
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