

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

DEPARTMENT OF GEOSCIENCE

ALUMNI NEWSLETTER

April 10, 1989

CHAIRMAN'S FORWARD

Welcome to the 4th occasional edition of the Geoscience newsletter, TECHtonics. Interesting things have occurred since our last edition (November 1986); for those of you who depend on the newsletter for information, I will try to bring you up-to-date.

Most of us moved into MSEC III (yes, it is still unnamed) in July and August of 1987. Dr. Gross and his lab still remain at their familiar stand in Workman Center, and Dr. Norman has a lab in Eaton Hall, but basically we now are under one roof. While Geoscience occupies most of the space, we share the building with the departments of Petroleum Engineering and Mining, Environmental, and Geological Engineering. Some of the new amenities we are getting used to include our own rock preparation room, thin section lab, computer room, map and drafting room and conference room, as well as three modern lecture halls just downstairs. The move was not without difficulty, however. Severe pain was suffered by those faculty who had to squeeze (up to) 400 ft² of old office into 150 ft² of new; one and one-half years later there are some who still haven't quite managed it.

The department grew by one in August of 1987 when Dr. Robert (Rob) Bowman joined us. Rob is a hydrologist specializing in soil chemistry and groundwater contamination. He comes to us from UC Berkeley (B.A.) and NM State University (Ph.D.) via the USDA's Water Conservation Laboratory in Phoenix.

In December of 1987 we were saddened to learn of the death of Dr. Marc Bodine. Marc was chairman of the department from 1975 until 1980, at which time he accepted a position with the USGS in Denver. His widow, Salli, has donated his professional library to the department.

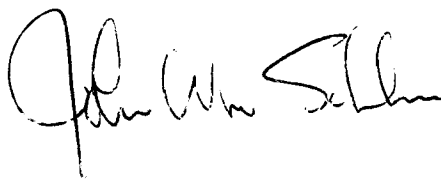
In the Spring of 1988, Professor Antonius J. Budding gave notice of his intention to retire at the end of 1988, after more than 32 years of service to the Institute. Tony thus follows into retirement Drs. Christina Balk and Clay T. Smith, marking an end to an era that began when these three constituted the entire geology department at NM Tech. Although Tony and Anita have plans for extensive travels, Tony will maintain an active role in the department as he continues to advise his graduate students. As a parting gift, the Buddings have endowed a Graduate Research Award. The purpose of this fund is to defray some of the costs incurred by Geoscience graduate students in the course of their research. Disbursements will be made annually on the recommendation of the department's Awards Committee.

Following Tony's announcement, the department began a search for a new structural geologist, which ended late in 1988 with the hiring of Dr. Brian Patrick. Brian is a graduate of the University of Washington and has gained considerable field experience while mapping in Alaska, specifically on the Seward Peninsula and in the central Brooks Range. He and his family are currently in Paris, where he is in the midst of a post-doc at the Ecole Normale Supérieure. They will be joining us in mid-August.

In October of 1988, the department technician, Mr. Robert (Bob) Pyke died in the VA hospital in Albuquerque of complications resulting from a brain tumor that was diagnosed in July of 1987. Bob's widow, Wilma, has moved to the Tucson area to be near her daughter. I hope that remembering Bob's irascible and irreverent nature will bring a smile to those of you who knew him.

Along the way, we have added two new adjuncts. Dr. John Eichelberger is a distinguished geochemist and volcanologist at Sandia National Labs. He has worked closely with Philip Kyle and has helped advise several Ph.D. students. Dr. Stephen Cather is a Tech alumnus who received his Ph.D. from the University of Texas at Austin. He is now a field geologist with the Bureau and is also helping our graduate students.

Finally, I would like to thank all of you who responded to our request for information about yourselves. We are always interested in knowing how our graduates are doing, and I know your fellow students enjoy reading about you as well. A special thanks to those of you who included checks with your letters; these unrestricted funds allow a flexibility not otherwise available to us in the department budget.



Mineral Science and Engineering Complex (MSEC) III - In the 1986 TECHtonics, Phil Kyle brought you up to date on the impending occupancy of the department's new home. In the Chairman's Forward to this issue of TECHtonics John Schlue filled you in on the reality of that occupancy and updated the list of our fellow inhabitants. John did indicate that we moved into the building over a period of several months, but he did not indicate why. Before the building was finished the third floor was damaged by a fire that apparently began in a pile of paint and thinner soaked rags. Although the fire was confined to the northeast corner of the third floor, the entire floor suffered extensive smoke damage, requiring an extended period for cleanup and completion. As a consequence, those of us on the third floor moved in a little later than the rest of the department.

For those who have not visited Tech recently, MSEC III is located immediately south of the "T" intersection at Lopezville and Bullock streets. For hundreds of Techies that location is better remembered as the site of the "Tin Can" or for the upper crust, the "Theater-at-Tech." Sorry, movies seen but not heard in the dank confines of a giant quonset are only memory.

Standing three full stories and painted an off white, MSEC III dominates the "skyline" of Socorro. A "racetrack hallway" surrounds a central core of laboratories. These include research labs and large, well illuminated teaching labs containing specialized equipment. For the most part, departmental, faculty, and graduate student offices are located around the perimeter of the building (outside the racetrack) to take advantage of natural light. On the first floor, there are three rather plush lecture rooms holding up to 70 persons each. The two largest are each equipped with two large projection screens which may be raised and lowered electrically, three wraparound blackboards behind an elevated stage, rear projection podiums with hard wired extensions for remote projector cables, lights which can be controlled from the front, and upholstered seats! Do you recall taking Geology 201 or 202 from Clay Smith or Fred Kuellmer when both cold water and insulation were falling from the ceiling of the Tin Can?

As with anything new there have been bugs associated with the building: air conditioning that works well in the winter, heating that comes on line in the summer, motion controlled lights that put classes even deeper in the dark, and exhaust fans in fume hoods that blow instead of suck. One by one these are being taken care of and we are becoming accustomed to some of the building's other idiosyncrasies (like the gentle harmonic sway that follows each successful test at the Terminal Effects Research and Analysis facilities). Being in one building has added enormously to the department's sense of community and to a spirit of co-operation not only between members of the department, but with the other departments (Petroleum Engineering, Mining and Geological Engineering) in MSEC III.

Next time you visit Socorro, drop by and check the place out. There is enough pride so that impromptu tours can often be arranged. Better yet, come to Socorro for 49'ers this Fall.

Clay T. Smith Retirement Celebration Planned - Readers of past newsletters may have noted that rather than "winding down" as retirement age approached, Clay Smith took on numerous additional responsibilities outside the department beginning in 1983, when he was General Chairman of the International Science and Engineering Fair held in Albuquerque, and in 1984 when he became Director of Alumni Relations & Annual Giving. Throughout this period, Clay continued to contribute to our teaching and to direct graduate thesis research. Sometime since 1986, Clay "retired." The only way that I know this is that in the 1986 TECHtonics Clay referred to himself as "Professor of Geology." In copy submitted to this edition, he refers to himself as "Emeritus Professor of Geology." There has been no indication from his activity level that "retirement" has occurred, because Clay is in the office almost every day, is in the field on most days when he is not in the office, and just recently took on a new Ph.D. student. None-the-less, it seems as though some formal change in Clay's status has occurred and we intend to help him "celebrate" this new status. The timing for this celebration is currently set for the Spring of 1990. We are asking for the aid of Clay's former students (loosely translated as students at Tech during Clay's tenure). One suggestion is a "Festschrift" including papers authored by former students and colleagues. The Festschrift could consist of papers presented at a symposium in the Spring of 1990, and then published, or as only a published volume. The symposium could be held as part of the New Mexico Geological Society's Spring meeting that year.

Such an undertaking would require effort. To do this we need your help. If you would be interested in contributing to the Festschrift, or helping solicit manuscripts let me know. Address your willingness to help, contribute, suggestions, etc. to: David Johnson, Dept. of Geoscience, New Mexico Tech, Socorro, NM 87801. Or better yet, give me a call at (505) 835-5771. Do it now. A year is not a long time in an effort like this. In the meantime, I'll be calling some of you.

Anton Budding's Retirement Party - On February 4th, eighty close friends, associates, and students gathered at the Val Verde Steak House in Socorro to honor Anton Budding's 32 years of service to New Mexico Tech and particularly to the Geoscience Department. Fred Kuellmer deftly hosted a ceremony that included accolades and reminiscences from Larry Lattman, John Hawley, Ted Kase, Clay Smith, Marv Wilkening, Sam Thompson III, Kent Condie, Bob Cormack, and most importantly Anton and Anita's two daughters, Karen and Ingrid. In appreciation of his service to the department, John Schlue presented Anton with a Nambe platter which, if he wishes, can be suitably engraved to mark the occasion. The evening ended with a few comments from Anton about the history of the department and his desire to continue to participate in the educational process at New Mexico Tech, particularly at the graduate level.

A couple of highlights of the party were a lucid explanation of Budding's Law by Bob Cormack and the announcement by Judge Ted Kase that Anton had been appointed Distinguished Professor of Tectonics at the University of Bingham, Bingham, NM. For those of you who may not know, Budding's Law (which is based on first-hand observations by Anton) states that the mass of droppings from trail horses is directly proportional to the steepness of the slope.

The professorship at the University of Bingham is a most prestigious position that is coveted by many in the geologic profession - a real honor for Anton. Unfortunately, it is not absolutely clear that Anton

has the appointment. Appearing in the February 2 issue of Socorro's Defensor Chieftain newspaper was a terse announcement from Krach Fisher, President of the University of Bingham: "Rumors that terrible Tony B. has been offered Professorship at University of Bingham are unfounded. Evidence exists that Tony does not."

Awards to Geoscience Students

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| 1987 - | New Mexico Geological Society Award | Robert Boyd (B.S. Geop., '87) |
| | Roswell Geological Society Award | Joan Resnick |
| | | Kim Edlund (B.S. Geop., '88) |
| | Estwing Award | Mary-Alena Deapen (B.S. Geol., '87) |
| | Barkley S. Wykoff Memorial Scholarship | Jai-Min Wan |
| | | Jose Manrique |
| | W.A. Tarr Award (Sigma Gamma Epsilon) | Vertrees McNeil Canby (B.S. Min. Engr., '87) |
| 1988 - | New Mexico Geological Society Award | David Carroll (B.S. Geop., '88) |
| | Roswell Geological Society Award | Greg Dean Woodside (M.S. Hydr., '88) |
| | | Richard Harrison |
| | | James Harvey |
| | Estwing Award | Linda Bunting (B.S. Geol., '88) |
| | Barkley S. Wykoff Memorial Scholarship | David Greenen |
| | | Laurie Benton |
| | Albuquerque Gem and Mineral Club Award | P. Shrestha |
| | W.A. Tarr Award (Sigma Gamma Epsilon) | Marc A. Willis (B.S. Geol., '88) |
| | American Mineralogist Award | Marc A. Willis (B.S. Geol., '88) |

Geoclub Formed - In 1985, a new geology-oriented club was formed, GeoClub. The founding members were Robert Boyd, Walter Gage, Scott Anderson, and Robert Bolton. The purpose of this club is to organize and expose students to geology by coordinating field trips (i.e. get people out of their dorms and into the field). This idea and the club grew from a handful of members in 1985 to more than 50 members this year. Our past presidents, Scott Anderson and Nicole Fatherly, took on a great responsibility in starting Geoclub. They developed a club that brings together students and makes learning and seeing geology fun and exciting.

In past years, GeoClub has taken many field trips to see local geology in areas such as Magdalena, Bingham and Water Canyon. As we have grown, our field trips have grown to include the Harding Pegmatite, Guadalupe Mountains and our greatest achievement, the Sunnyside Mine, Silverton, CO. As this year comes to a close, GeoClub is planning field trips to the St. Cloud Mine, Chino Mine, and the Waldo Mine. Field trips are the core of the club's activities.

GeoClub also has developed a guest and student speaker program that has generated a lot of interest. We are also holding a mineral swap this April. Many of our members are not in any geoscience program, but they joined GeoClub because we are an active club with a purpose. That purpose is to get people out in the field and make it fun. (Submitted by Robert Bolton, President, GeoClub)

Founders Awards to Geoscience Graduates - "A Founders Award was created to honor the persons responsible for establishing the New Mexico School of Mines in Socorro in 1889, especially J.J. Baca and Ethan Eaton. The award is presented to the recipient of an advanced degree who has made outstanding contributions to Tech through scholarship, research and involvement in campus affairs. The recipient is chosen by faculty nomination and Institute Senate election." In 1987 the Senate selected Karen Brown (M.S. Geol.). A Geoscience student captured the award once again in 1988 when Swen Magnusson (M.S. Hydr.) was the recipient.

Gifts to the Department - In response to our request for contributions to the Department, the alumni and companies listed below have responded. Donations ranged from \$25 to \$600. A very sincere thank you to each of you! If your employer will match gifts to an educational institution, by all means notify them of your intent to contribute. Your generosity will help maintain high quality teaching and research and will provide unrestricted funds that are of great benefit to the student body at New Mexico Tech.

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| Atlantic Richfield Oil & Gas Company (ARCO) | Izmirian, Albert A. (for Laurel) (M.S. '85) |
| Bijak, Martin (M.S. '85) | Maulsby, Joe P. (M.S. '81) |
| Bonem, Rena M. (B.S. '70, M.S. '72) | matched by Enserch Exploration |
| Carmichael, Alan B. (M.S. '82) | Morley, Raymond L. (M.S. '78) |
| Clevenger, Michael A. (B.S. '51) | matched by BHP-UTAH International, Inc. |
| Cox, Warren B. (M.S. '88) | Raby, Andrew (M.S. '82) |
| DeMelas, John P. (M.S. '73) | Richter, Donald H. (B.S. '50) |
| Falkowski, Stephen K. (M.S. '80) | Rosen, Stephen D. (M.S. '87) |
| matched by the Shell Companies Foundation | Tafoya, William R. (B.S. '83) |
| Gramont, Bertrand (M.S. '87) | Trocki, Linda (B.S. '76) |
| Hagenbuck, Julie (B.S. '80) | Weisbecker, Thomas (B.S. '74) |
| Hartmann, Dan J. (B.S. '63) | matched by Mobil E & P U.S. |
| Hodges, Howard C. (B.S. '57) | |

Pat and John Jones of Albuquerque donated two Soiltest sample splitters to the department during 1988. Friends of Clay Smith, they asked Clay if these would be of use to the department. As the chairman noted in his letter of appreciation, "Donations such as these provide research and teaching equipment for faculty and students that otherwise might not be available in these times of tight budgets."

II Century Fund - The Centennial fund raising effort is underway with a goal of raising 1.7 million dollars from alumni, friends, corporations, and foundations. Priorities for the II Century Fund are undergraduate scholarships, fellowships, and academic support. When you are contacted by a Tech student for your pledge, please respond favorably.

If you prefer that your contribution supports the Geoscience Department, indicate so to the caller or on your pledge form.

Your support will help Tech prepare for the challenges of the next 100 years.

Lodore River Trip - In August last year Kent Condie led a geological river trip of Tech faculty, graduate students, and friends down the Green River from Flaming Gorge Dam in NE Utah to the mouth of Split Mountain Gorge. Although the water flow was low (800 sec ft), the weather and geology were great. In Lodore Canyon, we carefully picked our way through the boulder fields exposed in Disaster Falls and managed to miss the sharp rock exposed at the end of the giant hole in Hell's Half Mile. In addition, we experienced a hail storm and had to drag the boats through the shallow water in Brown's Park. Despite these temporary inconveniences, everyone seemed to enjoy the trip.

If any Tech alumni are interested in joining us on a river trip during the summer of 1989, please contact Kent Condie.

James C. Doyle (B.S., Geol., '50) - Born March 14, 1915, Died June 4, 1988.

In previous newsletters we have not been confronted with the necessity of announcing the death of alumni. That is not to say that no alumni have passed away, we just have not been informed. We were very sorry to learn of the passing of James C. Doyle. The following is adapted from a newspaper article provided by Mrs. Gene Doyle, James' wife.

James Doyle, a longtime resident of Las Vegas, NM, died Saturday, June 4, 1988. Mr. Doyle was born in Croton Falls, NY, on March 14, 1915. He served in WWII (1939-46) as a captain in the 338th Engineer Regiment in the African, Middle Eastern and European theaters. He graduated from NY State Ranger School and received his B.S. and M.S. degrees in geology from NMIMT. He worked for Standard Oil Co., had his own geological consulting firm and retired from the NM St. Highway Dept. as an engineer tech senior.

Mr. Doyle was a fellow of the American Association for the Advancement of Science, American Institute of Professional Geological Society, NM Geological Society, National Rifle Association, Alumni Association of NM Tech, and the Protective Order of Elks.

He is survived by his wife Gene; son Marc H. Doyle of Raton; stepson Chris A. Candelario of Santa Fe; step-grandchildren Jonathan and Lilliana Candelario of Santa Fe; sister Katherine Ryan of Brea, CA; nieces Eileen Seaman of Palmdale, CA, Kathy Parson and her husband Bernard, Alice Geizel and husband Dennis of Anaheim, CA; and nephew Terrance Ryan of Wrightwood, CA.

Friends may make contributions to the Northeastern Regional Hospital, Attn: ICU Fund, Las Vegas, NM, 87701, in memory of James C. Doyle.

Mrs. Doyle had graciously offered to donate James Doyle's map collection to the department.

FACULTY NEWS

The careful reader will note that several of the faculty are not represented on the pages that follow. Their absence does not mean that they have slipped away from Socorro forever. Some have slipped away, but not forever (Norman), but the majority have had more pressing matters to deal with. We'll try to catch them next year, but if you are interested in the well being of a particular faculty member, give them a call.

George Austin, Senior Industrial Minerals Geologist, NMEM&MR and Adjunct Professor of Geology - Many things have happened since the last newsletter in 1986. I was appointed Deputy Director and Senior Geologist in 1986, Senior Industrial Minerals Geologist and Acting Deputy Director in 1987, and Senior Industrial Minerals Geologist in 1988. I resigned my administrative position of eleven years in the Bureau to return to research and to pick up that part of my career. Research was the reason I wanted to get into geology in the first place. So far, the change has been great.

I am the co-author of a to-be-published Bureau bulletin on adobe, something I have been trying to do for years. I have been working on clay resources of New Mexico as well as doing some basic research into the structures of clay. Other interests include magnesite, scoria, perlite, potash, building stone, and similar economically important commodities in NM.

We held the annual meeting of the Clay Minerals Society in Socorro in October 1987. Can you imagine 300 people from all over North America descending en masse on Socorro for a four day conference complete with field trips? We think it went very well and we did not lose anyone, nor did I, as general chairman, get any calls from either the local or state police concerning our guests.

I continue to be active in the Clay Minerals Society and the SME on a national level, the NMGS, the NM Hazardous Waste Management on a state level, and NM Tech Club on a local (social) level. At the present time I am advising one graduate student and participating on two other graduate committees.

Daughter, Karin, married Albert Trujillo in June of 1988 and they live in Albuquerque. Son Jon is attending UNM, so Marjorie and I have the run of the house with no one but the dog and the cat to get underfoot.

Robert S. Bowman, Assistant Professor of Hydrology - I joined the Geoscience Department in the Fall of 1987, following five years with USDA's Agricultural Research Service in Phoenix. I am not exactly a newcomer to New Mexico, however, I did my graduate work at NM State (in soil chemistry) and also lived for a time in Santa Fe.

Since coming to Tech I've taught courses in Hydrogeochemistry and Ground-water Contamination, and last Fall introduced a new course entitled Field and Laboratory Methods in Contaminant Hydrology. I am enjoying the challenges and rewards of teaching and interacting with students.

My research focuses on the movement of water and chemicals in soils and aquifers, and particularly on how surface chemical reactions affect such movement. Prior to coming to Tech my research was primarily concerned with water and chemical (pesticide and heavy metal) transport in agricultural systems. I am continuing to work in this area through a joint project, with USDA and Israeli scientists, concerning concentration and preferential flow effects on pesticide transport to groundwater. Recently, I've been fortunate in developing cooperative projects with several members of the Hydrology faculty. I am working with Dan Stephens on a field project using tracers to quantify water flow paths and velocities under variable saturation conditions in the vadose zone. John Wilson and I are cooperating on a project to determine how changes in the wettability characteristics of a porous medium affects multiphase fluid flow and chemical sorption. This work has applications to prediction of nonaqueous liquid contaminant migration, as well as to remediation of contaminated aquifers. Gerry Gross and I are working together on a project to evaluate tracers for use in hydrological site characterization at the proposed nuclear waste repository at Yucca Mtn., NV.

I feel my main contributions to the Hydrology Program will be in the application of chemical principles and analysis to water quality problems. To this end I am attempting to build an analytical chemistry capability which will allow us to do our analyses in-house. We have acquired a high-performance liquid chromatograph and two gas chromatographs, with which we can quantify a wide range of materials in natural waters. I will strive to improve our capabilities in the future.

On a more personal note, my wife Karen and I are delighted to be in Socorro and look forward to active involvement in the community. We have purchased a few acres north of Lemitar and plan to build a home there in the not-too-distant future. Along with our three-year old son, we have enjoyed arising to the sound of sandhill cranes calling to each other on winter mornings.

Ron Broadhead, Petroleum Geologist, NMBMSMR and Adjunct Assistant Professor - The 1988 year was a busy one. I was promoted to head of the Petroleum Section of the Bureau in May, saw several projects wind up, and started some new ones. The project with Bill King on the Tucumcari Basin was completed as was my work on the Bravo Dome carbon dioxide gas field of northeast NM. The Bureau's Petroleum Source-Rock Study of NM is also just about wrapped up; future analyses of strata for source-rock potential will involve new wildcat wells that are drilling or will be drilled. Major new projects include computerization of the Bureau's petroleum records (this will take several years) and an investigation of the petroleum geology of the Estancia Basin. In addition, I continue to teach Petroleum Geology every third semester. I also continue to serve in the AAPG House of Delegates and on the AAPG Membership Committee, and am the Program Chairman for the NMT Chapter of Sigma Xi.

On the recreational side, I continue to run in foot races throughout the state. Fortunately, my times saw marked improvement in 1988. The big one here is the Duke City Marathon, held every September in Albuquerque. During last year's race I ran into petroleum geologists from Houston and Denver.

Antonius J. Budding, Professor of Geology - Effective December 31, 1988, I have ended my employment with New Mexico Tech, and I am now officially Professor Emeritus.

Much has happened at Tech since September, 1956, when I came to Socorro. The Geology Department, as it was known in those days, was Dr. Clay T. Smith and I, soon to be joined by Dr. Christina Balk. The department occupied the second floor of Brown Hall, and laboratories were used for class rooms. Enrollment, both undergraduate and graduate, was fairly stable until the late '60's, when expansion began. Both by incorporating geophysics and hydrology, and by adding new staff, the department has grown sixfold, and now counts 18 members.

The departmental office moved from Brown Hall to Workman Center in the '70's and activities expanded all over campus. At one time, staff and graduate students were scattered over five different buildings. This situation was finally remedied when, in September 1987, the department moved into the newly constructed MSEC building.

Increase in enrollment in geology, which started in 1969, reached a peak in the early '80's. Since that time, enrollment has decreased to levels of the early '70's.

On the occasion of my retirement, my wife Anita and I have started a permanent fund, the proceeds of which will be available for graduate research in Geoscience at New Mexico Tech. The money can be awarded for fieldwork, supplies, travel, anything that will enhance the quality of a thesis or dissertation. I have noticed in the past that the work of many graduate students could be made even better, if some extra money were available. It is with this idea in mind that we have established the Geoscience Research Award. Incidentally, the possibility to add to this fund in later years has been left open.

To all students in geology and allied fields, I would like to say that it has been fun -- well, most of the time -- to have you in my classes. It has kept me young in spirit and it is always a thrill for me to read about your accomplishments in life after graduating from New Mexico Tech.

Jonathan F. Callender, Director NM Museum of Natural History and Adjunct Professor of Geology - I am a native of southern California but have lived in Albuquerque since 1972. I have been interested in the outdoors and natural science for over 30 years, spending more than 20 summers since the age of 10 in the mountains of North America.

I became a geologist after attending the California Institute of Technology for my B.S. degree, and subsequently I did graduate work at Harvard University, earning a Ph.D. in 1975. I have been a professor of geology at the University of New Mexico since 1972, specializing in field and structural geology and the regional geology of New Mexico. I have also been an adjunct professor at New Mexico Tech since 1985. I am perhaps best known publicly for my Community College class, "Geology of New Mexico." I was Assistant Chairman of the UNM Geology Department in 1979-81 and President of the NM Geological Society in 1977. I

have published numerous papers and maps on the geology of New Mexico, and was managing editor of the NM Geological Society Guidebooks to New Mexico in 1974-75 and 1978-83. In 1983, I became Chief of Scientific Programs and Curator of Geology at the Museum of Natural History. I was appointed Director in April 1984. The Museum has about 50 staff and an annual operating budget of approximately \$2.2 million. Some 400,000 people visit the Museum each year. My abiding interest is making natural science understandable to the curious of all ages.

Andrew R. Campbell, Associate Professor of Geology - The three years since the last newsletter have been my busiest ones since coming to New Mexico Tech. It would take too long to give you all the details so I will try to just hit the highlights. Two grants from NSF have gotten my research effort fully established. The first is for the study of fluid inclusions in opaque minerals using my special infrared microscope. This resulted in a trip to Cornwall, England, to collect samples and on to attend a meeting on fluid inclusions in Oporto, Portugal. Oporto, as you can see from the name is where port wine got its start and the final banquet for the meeting was at a port cellar where we sampled the local product. While in Portugal I also joined the NMIMT ore deposits field trip which was organized by David Norman in collaboration with Andy Rankin of the Royal School of Mines, London. Results from the research on the Cornwall samples were recently presented at GSA in Denver, and at a fluid inclusion meeting at UPI in conjunction with my student, Kurt Panter. The second NSF grant gives me what I have been waiting for -- a new stable isotope mass spectrometer. This has been installed and is being used constantly. Right now I am finishing the construction of a vacuum line to prepare silicates for $\delta_{18}O$ analysis and soon will work on the line for sulfides. Presently we are running lots of carbonate and water samples.

One of the biggest events of the last few years, and in fact of my life, was a month long trip to China. The trip was sponsored by the National Academy of Sciences and the Chinese Academy of Sciences. While in China I attended an international meeting, gave lectures at the Institute of Geochemistry and visited a number of mines. One of the greatest benefits of being a geologist is the travel. Not only is it necessary to go places, but those places are usually in remote, isolated areas. At one of the mines they told me that I was not the first foreigner to visit; a Russian had been there in 1950! I very much enjoyed the month there; it is unlike anywhere I have ever been, but I was also happy to get back home to heated rooms, cereal for breakfast, and to my family. I hope to get another chance to visit that country sometime soon.

The study of fluid inclusions has expanded from its origins in ore deposits and is now applied to many topics such as petroleum maturation, experimental petrology, volcanology, tectonics and nuclear waste disposal. Several years ago I worked with Norman to start an organization of fluid inclusion researchers from all areas of geology. The first very successful meeting was held in Socorro in January 1987 and the second at VPI in January 1989. The next meeting will be in Toronto in May of 1990.

I would be remiss if I did not mention the other important part of my life. My family has grown with the addition of my son, Robert, who was born in February of 1987. My daughter, Allison, is now three and one-half years old. Both children have Kathy's red hair, and around town I get identified as the father of the red-headed family (so much for my scientific fame). Last summer we went camping to the Tetons and Yellowstone. Lucky we went early in the summer and saw the area before the devastation of the forest fires. The kids love camping (sleeping in a tent and eating on the ground are great fun) so we are encouraged to take a similar vacation again soon. So that's about it; six graduate students, two children and a back yard keep me both busy and happy. Best of luck to you all.

Kent C. Condie, Professor of Geochemistry - During this last year, we have completed our geochemical studies of Precambrian volcanics and sediments on the Kaapvaal craton in South Africa. Clay Crow has completed his Ph.D. dissertation on the volcanics and Dave Wronkiewicz will finish his Ph.D. this spring on the sediments. One of the most exciting results of the research is that the Kaapvaal basalts are probably not basalts, but crustally contaminated komatiites that have been erupted on the craton beginning at about 3 Ga ago and continuing to about 1.7 Ga ago. In this region, komatiitic magmatism lasted long after the end of the Archean. Our studies of the clastic terrigenous sediments indicate that the craton has undergone a long history of craton maturation (~1.5 Ga) during which time granites continued to be intruded into the craton and serve as sources for the sediments. A major period of uplift is recorded near the Archean-Proterozoic boundary.

Our research on the Proterozoic of the Southwest U.S. continues, with six M.S. students finishing their thesis last year. We can now define about 25 terranes in the Southwest, many of which are allochthonous. Most of the Southwest appears to have been accreted to North America between 1.75 and 1.65 Ga with some accretion during the Grenville event in West Texas. Major collisions are recorded at 1.75 Ga (SE Wyoming), 1.7 Ga (W Arizona and SE Colorado), and 1.64 Ga (Oklahoma area).

We also began a new study this last summer in China. I have initiated a collaborative geochemical and isotopic study with a Chinese professor at Peking University to better understand the Archean development of the North China Craton. Currently, Mark Boryta is working on a Ph.D. dissertation, studying granulites in Inner Mongolia as part of this project.

During this last year I attended and presented papers at the International Symposium on Proterozoic Mobile Belts in Tianjin, China; the International Congress on Geochemistry and Cosmochemistry in Paris, France; and the Geological Society of America Meetings in Denver. We had many interesting and amusing experiences in China including getting our bus stuck in fording a river, having to speak and make toasts at a Chinese banquet, discovering a carbonatite in Inner Mongolia, and riding a bicycle on the busy streets of Beijing. I continue as Chairman of IGCP 217 Proterozoic Geochemistry with our meetings this year in Finland and Zimbabwe.

In addition to river running, I have taken up cross-country skiing this last year, which is a great activity even though I'm not very good at stopping and turning. In the spring of 1987 our daughter Linda married David Jolley. After David finishes his master's degree at the University of Utah, they are moving to Houston. Tami is working for Osmond Studios in Provo, UT, and Nathan (age 16) has become Mr. Macho with

his recently acquired Mustang. Carolyn (age 29 and holding) is teaching English full-time at Highland High School as she continues to work on her master's degree.

David B. Johnson, Associate Professor of Geology - With the downturn in the petroleum industry, my graduate student load has reduced rather dramatically. I currently have one doctoral student (Stan - my first), and two or three (depending on which way one is leaning this week) masters students. David Sivils, who just completed an M.S. at UTEP, will come to work on doctoral research with me next semester. He will join me in the Big Hatchets, but will concentrate on the Mississippian. I guess I should give up on the Pennsylvanian since all of my doctoral students have insisted on working the Mississippian.

My efforts at gaining proficiency in shape analysis are continuing, but slowly. Part of the problem is that the hardware and software are evolving so quickly that one is behind before a good start has been made. It is reasonably clear that I'll have to take a sabbatical and immerse myself before I can really get off the ground.

Teaching continues to include the second semester of the introductory course (Geology 102 now), elementary paleontology and at the graduate level depositional systems and carbonate petrology. Enrollments in all classes are reduced, but the undergraduate courses and depositional systems continue to attract a fair number of students. Carbonate petrology has been taught to as few as two students in the last two years. I will be teaching field camp in the Moab, UT and Gunnison, CO areas with Kent Condie and Bill Chavez this summer. Two or three years ago, Kent invited me along for one of his Spring whitewater raft trips and I guess I have the bug. I've participated each of the succeeding years. I won't say that rafting has replaced bicycling as a passion, but it seems I do more rafting than bicycling these days.

For me and for Karyn, the most significant event of the last year was the birth of our daughter Audrey on July 2nd. Audrey is healthy, happy (most of the time) and more energetic than I thought possible. Well perhaps part of that perception is based on a decreasing energy level for myself.

John S. Knapp, Assistant Professor of Geophysics - A great deal has happened since my last biographical sketch in TECHtonics two years ago. On the Institute level the Computer Center decided to scrap its aging DEC machines and replace them with a network of SUN graphic workstations. This has been great for Geophysics because the Sun workstation has been accepted by the Incorporated Research Institutions of Seismology (IRIS) as the standard geophysical computer. This new network has enabled us to hook our Ridge computer into the TCC network and to acquire IRIS-developed software for digital network processing. As I described in the last issue, we were in the process of converting the New Mexico Tech seismic network to digital recording and were beginning the step of developing the software to handle this new data using interactive graphics. With the SUN workstations we are able to pick arrival times on seismic data to an accuracy of .01 second as well as perform many on-line processing steps such as filtering and spectral analysis. We have tailored our earthquake location program so that we can instantly locate an event and on the screen make corrections to the picks to arrive at a final solution in just a matter of a few minutes. Unfortunately, shortly after installing our digital acquisition system it mechanically broke down and as of yet we have not seen a digital trace of a New Mexican earthquake on a SUN graphics screen. So goes the way of academia (alumni contributions for the purpose of getting our digital network going will be much appreciated).

Last May I attended the annual Seismological Society of America Meeting held in Honolulu, Hawaii where I presented a paper summarizing ten years of recorded seismic activity near Cape Mendocino, CA. Although this is the southern end of the Cascadia subduction zone, most of the earthquakes exhibit left-lateral faulting associated with internal deformation of the subduction plate. The best thing about the meeting was that it was in Hawaii. I had never been there before so I stayed several extra days and visited the Big Island. It certainly was not the tropical paradise I had envisioned since it rained torrentially the entire time. I did make it out to one of the recent lava flows. It melted the soles of my Adidas but it was worthwhile to see the lava spilling into the ocean. As far as Waikiki is concerned -- it sure seems like a lot of hotels for such a tiny beach!

In the last two years six of my students have graduated with M.S. degrees. These include: Hans Harste, Kent Anderson, Fred Dube, Julio Montano and Don Marshall. My first geology masters student was Steve Zody. Steve was a football player as an undergraduate student at Ashland College so we immediately put him to work generating seismic sources for several of our small refraction studies.

Other students I have mentioned previously in TECHtonics, David Lowe, Sam Watts, and Kevin King, have left the Geophysics Program. Sam has been very successful as a programming consultant and is now working on an M.S. degree in computer science. Dave left the program to work as a jug hustler for Western Geophysical and now works as a geophysicist for an environmental consulting company in Albuquerque. Kevin King worked temporarily at the Nevada Test Site and is now an exploration geophysicist with Shell in Houston. My new student, Julio Aguilar-Chang (from Guatemala) will be building on Julio Montano's work by conducting a seismic experiment in the Rio Salado using downhole geophone arrays.

As a member of the Board of Directors of IRIS, I attended several planning meetings. The goals of IRIS are to develop and purchase a new class of seismic instruments and data loggers for worldwide digital earthquake monitoring and for large-scale reflection/refraction experiments. At a recent meeting in Alta, UT, I made presentations to encourage the study of the transition zone in east-central Arizona and west-central New Mexico and in the Baikal Rift in the Soviet Union. Related to this, Larry Jaksha and I received funding in 1988 for a refraction experiment between Morenci, AZ, and Gallup, NM. One of the objectives is to test the performance of the new IRIS digital data logger.

Academically, our 3-D workshop with Phillips Petroleum was a major success and we will be repeating it this Spring. Next time Dan Wieder and Tim Wallace, both Tech grads, will be involved. To be creative, we have split Geophysics 445 into two semesters, the first emphasizing gravity, magnetics, and refraction prospecting, and the second on reflection prospecting. Teaching oceanography in the desert was a beach; I trashed out Weir 120 with salt water several times.

On the lighter side, I have served as the advisor to the Geophysics Club and as the vice president and now president of the NM Tech Club. The main advantages of these is that I am able to force people to go on ski trips with me. As co-advisor of the Geology Club I am being forced to learn about ore deposits -- so it all works out in the end.

All in all, I am pleased that the last two years were quite successful. However, as I am sure many of you alumni are aware, Socorro is not the greatest place for a single guy. Consequently, before my biological clock runs out, I will be moving on to greener pastures next year. Hopefully I will see many of you again at future AGU or SEG Meetings.

Frank E. Kottlowski, Director NMBM&MR and Adjunct Professor - I have been heavily involved in administration of the Bureau, thus there is not much time to continuously pursue research. Much more impact with Geoscience faculty and students is related to approval in funding of research projects which cover the whole range of geology of New Mexico and adjoining areas. Each year the Bureau sponsors 10 to 15 research assistants and supports, mainly with expense monies, 20 to 50 geologic research projects outside those done by NMBM&MR staff.

Present research activities, as time permits, are coal quality studies of strippable coal in New Mexico, relationships of various basal conglomerates and associated sediments on hills of Precambrian rocks (but with topographic expression ranging from Cambrian to Permian in age), and mineral potential of the state.

Activities with professional organizations range from serving as President of Energy Minerals Division of AAPG, Board of Directors of the New Mexico Mining Association, and representing the Association of American State Geologists on the US National Committee on Geology. Always after returning from a far away meeting, I am impressed with how New Mexico's spectacular and varied geology is reflected in its world-reknown scenery and economically important mineral deposits.

Philip R. Kyle, Professor of Geochemistry - My geological life (what else is there you may ask) still revolves around Antarctica. I recently returned from my annual pilgrimage to the ice, and in doing so completed my 18th field season working in Antarctica. As usual I was accompanied by my trusty friend and colleague, Bill McIntosh and also Nelia Dunbar, Kurt Panter and Lauri Sybeldon. Nelia completed her Ph.D. on volatiles in rhyolitic magmas erupted during the catastrophic 130 AD Taupo eruption, New Zealand just prior to leaving for the ice. An NSF grant has allowed Nelia to continue her work on volatiles in rhyolites as a post-doctoral study. Fortunately she has good access to the ion microprobe at Arizona State University where she analyzes water and trace elements in melt inclusions trapped in minerals. Her future work includes a study of the Bandelier Tuff which was erupted from the Valles Caldera in the Jemez Mountains and also the Bishop Tuff which is found in Long Valley, CA. Anyway, back to Antarctica. Our work over the last few years has concentrated mainly on Mount Erebus where we have been monitoring the emissions of SO₂, trace metals, aerosols, particles and other gases. We have found traces of gold as small particles in the plume and have measured emission rates at about 0.1 kg per day (hardly enough to float Kyle Antarctic Exploration Ltd., but still interesting in terms of vapor phase transport of this precious metal). In addition we have some data that suggests Erebus may have emitted large quantities of HCl over the last 20 years. We are presently trying to quantify those emission rates and evaluate their importance with regard to the spring ozone hole which develops over Antarctica and may be caused in part by man-made fluorochlorohydrocarbons. In December 1986, we worked on Erebus with Bob Martin, an ex-Socorro boy who, in cooperation with Eastern NM University, produced an independent TV documentary called "Expedition to Erebus." The production, which was seen on selected PBS TV stations throughout the US, highlighted our work on Erebus.

The highlight of the past several years was the sabbatical leave I took from July 1987 'til July 1988. This was a wonderful and busy year which took me and my family (Susie, Clair now 6 years old and Emily 3 years) firstly to New Zealand. After working on my research as a research fellow in the Research School of Earth Sciences at Victoria University for several months, I went to Antarctica for a short visit to Erebus. While in New Zealand we rented a house in a popular seaside resort about 25 miles from Wellington. Being summer at the time, the kids loved to frolic in the sea and got to appreciate how dynamic and restless the oceans can be. During my time at Victoria University I also got to work on the electron microprobe and was assisted by Dave Caldwell, a perpetual M.S. student working with me on Erebus. In mid-January we flew to London, stopping in Los Angeles for Susie and the kids to visit Disneyland while I returned to Socorro to clean up my mail and sort a new load of data to take to London. I spent 7 months in the Department of Geology, Royal Holloway and Bedford New College. This is a relatively new geoscience department having been formed about 1984 by the amalgamation of departments formerly at Kings, Chelsea and Bedford Colleges of the University of London. Royal Holloway itself was formerly a women-only liberal arts college and is renowned for its spectacular Victorian building which contains a collection of paintings (including some by Constable, Gainsborough, and Turner) bought by Holloway and now valued in excess of \$50 million. The college is 20 miles west of London, close to the Thames River and near Windsor, the site of Windsor Castle. We lived about a mile from Runnymede, the site where the Magna Carta was signed. My main purpose for visiting Royal Holloway was to work in their new radiogenic isotope lab. After all these years of teaching about Sr and Nd isotopes, I got a chance to do some analytical work on samples from the Valles Caldera, NM, the Zuni-Bandera volcanic field, NM, and also Mt. Erebus. London is a wonderful and dynamic city; for me, the shows are the best part. Seven months was barely enough time to scratch the surface of the place. In March I accompanied the second year students on their two week field trip to the NW Highlands of Scotland. It was spectacular geology and I was very impressed by the Archean gneisses which make up the Lewisian rocks (I can hear some of you saying the man must have gone out of his head looking at something so old; so don't tell Kent Condie, I am not a convert yet). Perhaps the best part of the trip was 4 days on the Isle of Skye, after wet days in the field looking at Tertiary volcanics and subvolcanic intrusive rocks, we returned to our hostel for haggis and the local malt whiskey.

Getting back to teaching and Socorro has been a bit of a shock, but things are finally starting to settle down. The year ahead is another busy one. In March I take a field trip to Hawaii to see the current

eruption where lava is flowing through a small lava pond and then descends down a series of lava tubes where it pours into the sea, resulting in continuous small steam and phreatomagmatic explosions. We plan on doing some research in cooperation with people in the USGS Hawaiian Volcano Observatory. In late April I will attend a meeting in Munich (cannot wait to try the beer) and will then go back to Royal Holloway to finish my isotope work. The highlight for New Mexico will occur in late June when an International Volcanological Congress will be held in Santa Fe. Just imagine 800 volcanologists descending on Santa Fe. Boy, will the beer flow.

Laurence H. Lattman, Professor of Geology and President of New Mexico Tech - My connections with geoscience are reduced to one research project on neotectonic control of drainage systems (with Stanley Schumm of Colorado State University) and writing broad review articles (e.g., the chapter on mineral education in the forthcoming SME Handbook). In 1986, I received the Mineral Industry Education Award of AIME, further evidence of rapidly approaching senior citizen status.

My primary concerns are guiding Tech through a period of changing employment opportunities in the extractive industries and making certain we get a fair shake in state funding. Tech is now expanding its offerings into electrical engineering and business but will not lose sight of its basic mission of instruction and research in the earth and mineral sciences. The great pleasure of being president of Tech is to be part of an institute of such high quality faculty and students and to make certain that both have the opportunity for growth and success.

John R. MacMillan, Associate Professor of Geology - In about the last three years I have maintained teaching of undergraduate level sedimentation and stratigraphy, the siliciclastic and carbonate/evaporite sedimentary portions of the petrology sequence and, usually coteaching with Larry Lattman (except by myself in 1987), Geology 101, Principles of Geology which is more or less Physical Geology, and occasionally 1/3 to 1/2 of Geology 360 (Field Camp). I have offered graduate level siliciclastic sedimentary petrology and tried, some years successfully but other years with little contribution on my part, coteaching with Dave Johnson the graduate level Depositional Systems and Basin Analysis.

I have also offered one or two minicourses and delivered lectures to several middle and high school level students, plus participating as the geoscience instructor in both the NAMES and MIMES (Native American Mining and Engineering Science - Minorities in Mining Engineering Science, respectively) summer sessions. Four of my M.S. advisees and one Ph.D. have graduated.

Some, those mentioned in the last edition, research projects were completed; other research on the Abo Formation continued and was expanded to include the Sangre de Cristo Formation at Mora, Montezuma (near Las Vegas, NM) and Canoncito (between Santa Fe and Glorieta). My concern with Permian redbeds was also expanded to include the Yeso Formation, or more specifically the clay minerals within it, through research grants written primarily by Gerry Gross and funded by the NM Water Resources Research Institute. This research topic led me back to a concern of my long-ago research with Marc Bodine, while he chaired the Department, such that I was more severely upset by the news of his death. I am glad to have helped in the department receipt from Sallie Bodine of Marc's collection of books and papers.

Jacques R. Renault, Senior Geologist, NMB&MR and Adjunct Professor of Geology - recently returned from a 6-month sabbatical leave - most of which was spent in southern France. I was supported in part by the Bureau de Recherches Géologiques et Minières and the Laboratoire de Minéralogie et Crystallographie de L'Université Paul Sabatier at Toulouse. I "worked" in the Montaigne Noire investigating its wine, cheese, old castles, and microcrystalline quartz (in that order!).

Allan R. Sanford, Professor of Geophysics - The highlight of the year for me was a trip to Lake Baikal in central Siberia as a participant in an exchange program with Soviet scientists. The overall objective of the exchange, which involved groups of eight U.S. and Soviet scientists, was to make comparisons between two major continental rifts; the Rio Grande rift (RGR) and the Baikal rift zone (BRZ). Because of my background and interests, my principal objectives were (1) to compare the seismicity of the two rifts and (2) to determine whether Soviet scientists had found evidence in the BRZ for magma bodies at mid-crustal depths which are similar to the one observed in the Socorro area of the RGR. What I learned from my Soviet counterparts is that the BRZ is about 100 times more seismic than the RGR for reasons that are not entirely clear at this time. In addition, I found that they had not targeted any of their seismic studies for detection of magma bodies in the crust but that they would be interested in collaborating on such research in the future.

However, the most interesting part of the trip was not the science but the people and the scenery. Lake Baikal is one of the most beautiful places I have ever visited -- similar to a gigantic Lake Tahoe -- and I would strongly recommend visiting it if you ever have a chance. The people are warm, friendly, and generous. I was unable to detect any hostility or jealousy towards Americans even though they have so little material wealth compared to us. From what I observed, "Glasnost" is for real and it appears we may have a great opportunity to come to sort of accommodation with the Soviet Union which is of mutual benefit to both countries.

John Wm Schlue, Chairman, Geoscience Department, Associate Professor of Geophysics - I would like to thank those of you who noticed I was not represented in the last issue of TECHtonics, and were kind enough to ask about me. Actually, I never got around to writing my paragraph and Dave Johnson just went ahead and published without me. To add injury to insult, the department then elected me Chairman to ensure I would have to write two items this time.

I have continued with my research with surface waves, primarily the measurement and modelling of surface wave propagation in the Rio Grande rift (with substantial support from C.L. Edwards (class of '75) at LANL). I also have a student looking at surface waves recorded by an array of seismometers on Ross Island, Antarctica. Through Philip Kyle's help, I spent most of December 1987 at McMurdo Station trying to

record some seismic signals. During my stay at McMurdo, I managed to snag a turn-around flight to the South Pole, and so spent about an hour there.

Karen and I have received official invitations to visit Shanxi Mining Institute (in Taiyuan, Shanxi Province, P.R.C.). She will discuss Tech's English requirements and Intensive E.S.L. program, while I will give a few lectures and discuss possible research projects of mutual interest. Current plans are for us to leave the latter part of May and return in mid-June.

Following in my predecessor's footsteps, I have become an A.Y.S.O. soccer coach. Actually, I was blackmailed into it. Dan Stephens agreed to be acting Chairman while I was in Antarctica only if I would coach his team while he was on sabbatical. It is an interesting experience to coach your own son.

Clay T. Smith, Emeritus Professor of Geology - The last Tectonics suggested my impending retirement. It actually finally happened, although I don't feel very retired and I warn all readers to avoid it at all costs. I have never been so busy and accomplished less. About the time the last edition of this tome was being mailed to you I was on my way to Malaysia to teach a beginning geology course to non-geology majors for the University of Maryland. This grew out of a quick trip (six countries in four weeks) to Asia for Tech to assess the possibilities of student recruitment. While in Kuala Lumpur, I met some people who suggested that we check with the University of Maryland regarding foreign students, etc. In doing so I somewhat facetiously asked if they needed a geologist. They asked for my credentials and contacted me in April to see if I could be in KL by the 15th of May. I taught a full semester course in 8 weeks, which turned out to be too much material for the students with the language handicap et al. I suggested to the director of the operation that the work should be covered in a full semester (two 8-week terms) and she said if I would return to teach it she would try to get it organized. The final result was that I was asked to return to Malaysia for the winter and spring of 1987 but NM Tech said I could not go unless I retired. Ergo, I retired on January 1, 1987, and was on my way to Malaysia on January 13. It was a fascinating experience and if you come by Socorro to visit us I will tell you all about it. On my return I got involved in some expert witness work on several different cases and discovered it is much simpler to teach geology to students than it is to lawyers. We did finally resolve a case involving some patented claims in Mockingbird Gap on the White Sands Missile Range which had been pending for 17 years. A couple of other cases were also favorably settled for my clients and one is due to go to trial in about one year. Other than that I have been trying to get some work done on the complex geology across the river. It seems to be going about as fast as the improvements in my golf game, and you know how that is! Come see us if you're ever in the vicinity; I'll be glad to show you some remarkable geology, or we can improve my golf game; take your choice.

Donald L. Wolberg, Paleontologist, NMBM&MR and Adjunct Associate Professor - I hold an appointment to the Graduate Faculty at the University of Kansas. My research interests have centered on fossil faunas and floras of the San Juan Basin of New Mexico, especially the late Cretaceous Fruitland Formation. However, one of my responsibilities is to respond to inquiries from the public and I frequently have to get out and examine a discovery made in the state. Sometimes these turn out to be dead cows, but once in awhile something of special interest will turn up. Of late I have become interested in the origin and geochemistry of fluid inclusions in fossil resins as well as the micro-paleontology of a marvelous Fruitland core. In this last study, we are cooperating with several major petroleum companies. I am also responsible for the largest fossil collection in New Mexico. We continue to be fairly active with publications and papers at the NMBM&MR, Journal of Paleontology, NM Geological Society, Geological Society of America, and American Geophysical Union. We were also part of a major National Academy of Sciences report.

I wear other hats as well these days; I am a commissioner on and deputy chairman of the NM Coal Surface Mining Commission. I also serve as a member of the state/federal San Juan Basin Regional Coal Team. I have just completed serving four years as a technical editor for the Journal of Paleontology of the Paleontological Society, and as a member of the government liaison committee of the Society of Vertebrate Paleontology. I am now, CEO, secretary, of the Paleontological Society.

In our spare time, we try to keep up with six kids and breed and raise Arabian horses for riding, show, and racing. The oldest of the children, Heidi, graduates from the Naval Academy at Annapolis this year. If you ever need a horse, have I got a deal for you.

RECENT DEGREES

Master of Science in Geochemistry

Robert J. Andres - Thesis: Sulfur Dioxide and Particle Emissions from Mount Etna, Italy. December 1988; advisor-Kyle.

Christina B. Behr - Thesis: Geochemical Analyses of Ore Fluid from the St. Cloud-U.S. Treasury Vein System, Chloride Mining District, New Mexico. December 1988; advisor-Norman.

Lori E. Apodaca - Thesis: Geochemical Study of the Cochiti Mining District, Sandoval County, New Mexico. December 1987; advisor-Norman.

Gail Hodge - Independent Study: Identification of Organic Compounds in Fluid Inclusion. August 1987; advisor-Norman.

Antonio Lanzirotti - Thesis: Geology and Geochemistry of a Proterozoic Supracrustal and Intrusive Sequence in the Central Wet Mountains, Colorado. December 1988; advisor-Condie.

Scott David Long - Independent Study: Fluid Inclusion Study of the Bushman Mine, Botswana. February 1986; advisor-Norman.

Kimberly A. Meeker - Thesis: The Emission of Gases and Aerosols from Mount Erebus Volcano, Antarctica. December 1988; advisor-Kyle.

James Robert Reed - Thesis: Geology and Geochemistry of the Proterozoic Age Alder Group, Central Moztatzal Mountains, Arizona. April 1988; advisor-Condie.

Lawrence Schenmeyer - Independent Study: Instrumental Neutron Activation Analysis of Rock Standards and Fluid Inclusion Water. August 1986; advisor-Kyle.

Mark S. Thacker - Independent Study: Geology and Geochemistry of Proterozoic Supracrustal Rocks of the Northern Sangre de Cristo Mountains, CO. December 1988; advisor-Condie.

Master of Science in Geology

Dean E. Alford - Independent Study: Geology and Geochemistry of the Hembrillo Canyon Succession, San Andres Mountains, Sierra and Dona Ana Counties, New Mexico. May 1987; advisor-Condie.

Reid S. Allen - Independent Study: Stratigraphy Carbonate Petrology, Paleo Environmental Analysis, and Geologic Control on Mineralization of the Jones Camp Dike Region, Socorro County, New Mexico. December 1988; advisor-Smith.

Cornelius A. Amindyas - Independent Study: Geochemical Studies of the Cerillos Porphyry Copper Deposit, Santa Fe County, New Mexico, U.S.A. December 1988; advisor-Campbell.

Abraham Araya - Independent Study: Paleoenvironmental Analysis of Upper Cretaceous Strata, Jornada del Muerto Coal Field, Socorro County, New Mexico. December 1986; advisor-MacMillan.

Cynthia Paula Ardito - Thesis: The Relationship Between Mineralogy Groundwater Chemistry and Groundwater Flow in the Moreno Hill Formation. December 1987; advisor-MacMillan.

David L. Baker - Thesis: The Geology and Gold Deposits of Selected Areas of the Jicarilla District, Lincoln County, New Mexico. November 1986; advisor-Smith.

Donald Shaw Barrie - Thesis: Engineering Geology of Northern Estancia Valley, North-Central New Mexico. November 1987; advisor-MacMillan.

Mark D. Boryta - Thesis: Geochemistry and Origin of Igneous Rocks from the Archean Belt Bridge Complex, Limpopo Belt, South Africa. December 1988; advisor-Condie.

G. Patrick Bowling - Independent Study: Geology and Geochemistry of Early Proterozoic Supracrustal Rocks from the Western Dos Cabezas Mountains, Cochise County, Arizona. January 1987; advisor-Condie.

Karen Barbara Brown - Thesis: Geology of the Canyoncito de la Uva Area. May 1987; advisor-Smith.

Robert M. Colpitts - Thesis: Geology of the Sierra de la Cruz Area, Socorro County, New Mexico. May 1986; advisor-Budding.

Keith Gerard Dias - Independent Study: Petrographic Examination of the Effects of Oxidation/Dehydration on a Subbituminous Cretaceous, New Mexico Coal. June 1986; advisor-Kuellmer.

Patrick W. Dotson - Independent Study: Leaking Underground Storage Tanks in the U.S. with a Specific Reference to the Problem of Abandoned or Unreported Underground Storage Tanks in Bernalillo County, New Mexico. December 1988; advisor-Norman.

Joan L. Gabelman - Thesis: Precambrian Geology of the Upper Brazos Box Area, Rio Arriba County, New Mexico. December 1988; advisor-Robertson.

April VanCamp Gil - Thesis: Whiterock (Lower Middle Ordovician) Cephalopod Fauna from Ibex Area, Millard County, Western Utah. August 1987; advisor-Flower/Johnson.

Bertrand Gramont - Thesis: Carbonate Sedimentology of the Virgilian Part of the Horquilla Formation Big Hatchet Peak Area, Hidalgo County, New Mexico. November 1987; advisor-Johnson.

Charles M. Hammond - Thesis: Geology of the Navajo Gap Area Between Ladron Mountains and Mesa Sarca, Socorro County, New Mexico: A Structural Analysis. July 1987; advisor-Chapin.

Michael Hermann - Thesis: Geology of the Southwestern San Mateo Mountains, Socorro County, New Mexico. May 1987; advisor-Smith.

Theodore Paul Jochems - Thesis: Geological, Paleomagnetic and Geophysical Studies at Jones Camp Dike, Socorro County, New Mexico. May 1987; advisor-Smith.

Terrell C. Jones - Independent Study: A Correlation between Diffuse Reflectivity and Specular Reflectivity of Selected Coals. December 1986; advisor-Kueller.

Ronald M. Linden - Thesis: Strain Energy and Jointing in Coal and Adjacent Sediments. April 1987; advisor-Budding.

Gregory E. Little - Thesis: Subsurface Analysis of the (Permian) Abo Formation in the Lucero Region, West-Central New Mexico. June 1987; advisor-MacMillan.

Gregory Paul Miller - Independent Study: The Role of the Geologic Intern in the National Hazardous Chemical Waste Remedial Action Program. April 1988; advisor-Norman.

James Allen Moore - Thesis: Mineralogy, Geochemistry and Petrogenesis of the Lavas of Mount Erebus, Antarctica. June 1986; advisor-Kyle.

Maphumzana V. Nkambule - Independent Study: Skarn Mineralization at Iron Mountain, New Mexico in Light of Fluid Inclusion Studies. December 1988; advisor-Norman.

Philip D. Noll, Jr. - Thesis: Geochemistry and Tectonic Setting of the 1700 Ma Alder and Red Rock Groups from Tonto Basin, Arizona. December 1988; advisor-Condrie.

Patricia Perry - Thesis: An Interpretation of the Depositional Setting for the Sugarite Coal Zone of the Raton Formation Located near the City of Raton, New Mexico. May 1987; advisor-Johnson.

James Alan Porter - Independent Study: High Salinity Fluids Responsible for Gold Mineralization in the Nogal Mining District, New Mexico. November 1987; advisor-Campbell.

Stephen Dennis Rosen - Independent Study: Geology and Structure of the Mesa del Yeso Area, Socorro County, New Mexico. November 1987; advisor-Budding.

Prapat Sophonphongphiphat - Independent Study: Chemistry and Mineralogy of Coals from "BA" Seam, Lee Ranch Mine and "YA" Seam, York Canyon Mine. February 1988; advisor-MacMillan.

Terry Lee Spell - Thesis: Geochemistry of Valle Grande Member Ring Fracture Rhyolites, Valles Caldera, New Mexico. July 1987; advisor-Kyle.

Belachew Tezera - Independent Study: Geology of part of the Sierra de la Cruz Quadrangle. January 1987; advisor-Budding.

Weiqiang Wu - Independent Study: Subsurface Geology and Petroleum Potential in the Trinidad Sandstone and Associated Formations in the Raton Basin, Southeastern Colorado and Northeastern New Mexico. August 1987; advisor-MacMillan.

Steven P. Zody - Thesis: Seismic Refraction Investigation of the Shallow Subsurface of the Lower Rio Salado, Northwest of San Acacia, New Mexico. December 1988; advisor-Knapp.

Master of Science in Geophysics

Kent Anderson - Independent Study: The Determination of Seismic Q in Highly Attenuative Media. May 1988; advisor-Knapp.

Gunars Berzins - Independent Study: Assessment of Gravity Anomalies Over Mine Tunnels. July 1985; advisor-Sanford.

Hans Edward Hartse - Independent Study: Depth Transforming Multi-Offset Vertical Seismic Profile Data. May 1987; advisor-Knapp.

Kevin M. King - Independent Study: Investigation of the Seismogenic Zone in the Vicinity of Socorro, New Mexico from an Analysis of Focal Depth Distributions. December 1986; advisor-Sanford.

Der-fu Liu - Independent Study: The Layered-Capacitor Method for Dielectric Bridge Measurements Algorithms for Inversion and Parameter Fitting. June 1987; advisor-Gross.

Donald W. Marshall - Independent Study: Removing Spatially Aliased Coherent Noise from Seismic Data Using a Time-Shifting, f-K Domain Filter Algorithm. December 1988; advisor-Knapp.

Cecilia Petrilla - Independent Study: Analysis of a Recent Swarm Activity Along the Hot Springs-Montosa Fault Near Socorro, New Mexico. June 1987; advisor-Sanford.

Paul Joseph Singer - Independent Study: An Analysis of the Average Crustal Velocity Structure of the Albuquerque Basin Rayleigh Waves. May 1985; advisor-Sanford.

Master of Science in Hydrology

Thomas Neil Blandford - Thesis: Large Scale Parameter Estimation Through the Inverse Procedure and Uncertainty Propagation in the Columbus Basin, New Mexico. June 1987; advisor-Wilson.

Stephen H. Conrad - Independent Study: A Laboratory Investigation of Residual Organic Liquid Saturation in Soils. April 1987; advisor-Wilson.

Warren Brady Cox - Independent Study: A Field Study of Ephemeral Infiltration and Recharge. April 1988; advisor-Stephens.

Kenneth Harris, Jr. - Independent Study: Incorporation of Spatial Variability of Mill Tailings Hydraulic Properties Into a Numerical Model: Implications for Movement and Retention of Moisture. December 1987; advisor-Stephens.

Jeffrey A. Havlena - Independent Study: Hydrogeologic Parameters of an Ephemeral Stream: The Rio Salado of Central New Mexico. April 1988; advisor-Gross.

Ward E. Herst, Jr. - Independent Study: The Borehole Infiltration Method for Determining Saturated Hydraulic Conductivity in the Vadose Zone: A Deep Water Table Case in Low Permeable Soil. July 1986; advisor-Stephens.

Gary D. Johnson - Independent Study: Characterization of the Spatial Variability of Mill Tailings Hydraulic Properties: Statistical and Geostatistical. March 1987; advisor-Wilson.

Peter T. Kallay - Independent Study: A Spectral-Perturbation Model of Water-driven Oil Flow in Porous Media. December 1988; advisor-Gutjahr.

Barbara Kickham - Independent Study: A Field Study on the Water Use of a Dalea scoparia Plant in the Northern Chihuahuan Desert. April 1987; advisor-Stephens.

Marcy Lynn Leavitt - Independent Study: Spatial Variability of the Hydrologic Parameters of Soils at Sevilleta National Wildlife Refuge. December 1986; advisor-Stephens.

Swen O. Magnuson - Independent Study: Optimization of Transmissivity Measurement Networks for Head Uncertainty Reduction. March 1988; advisor-Wilson.

Julie Lynn Mattick - Independent Study: Quantification of Ground-Water Recharge Rates in New Mexico Using Bomb- C1 and Bomb- H Soil-Water Tracers. July 1986; advisor-Phillips.

John P. McCord - Independent Study: Hydrogeology of a Fruitland Formation Aquifer, San Juan Basin: New Mexico to Colorado with Emphasis on Using Temperature Distribution Data to Estimate Lateral Ground Water Velocity. December 1988; advisor-Phillips.

Deborah L. McElroy - Independent Study: The Scale Dependence of Dispersivity in Unsaturated Mill Tailings. May 1987; advisor-Stephens.

Brian Edward McGurk - Independent Study: Conceptual Hydrogeologic Model of the Nations Draw Area, Catron and Cibola Counties, New Mexico: New Mexico Bureau of Mines and Mineral Resource Report to Salt River Project, Phoenix. 1986; advisor-Stone.

Christopher D. Mikell - Independent Study: Field and Numerical Studies of Borehole Infiltration Tests in Heterogeneous Soils. December 1986; advisor-Stephens.

Alva M. Parsons - Independent Study: Field Simulation of Waste Improvement Seepage in the Vadose Zone: Site Characterization and One-Dimensional Analytic Modeling. December 1988; advisor-Stephens.

Stewart S. Smith - Independent Study: Cosmogenic ³⁶Cl Research: Chlorine Extraction Procedures and Application of Dating Techniques at Meteor Crater, Arizona, and Bloody Canyon, California. December 1988; advisor-Phillips.

Greg D., Woodside - Independent Study: Aquifer Decontamination by Pumping in Radial and One-Dimensional Uniform Flow Fields. December 1988; advisor-Chen.

D.A. Zimmerman - Independent Study: A New Technique for Obtaining Stochastic Predictions of Groundwater Flow Through Heterogeneous Porous Media: Cosimulation of Heads and Log-Transmissivities Using a Numerical Spectral Perturbation Method. December 1988; advisor-Wilson.

Doctor of Philosophy in Geoscience (Geochemistry)

Henry Clay Crow - Dissertation: Geochemistry and Origin of Late Archean-Early Proterozoic volcanics of the Kaapvaal Craton, South Africa. July 1988; advisor-Condie.

Doctor of Philosophy in Geoscience (Geology)

Paul Winston Bauer - Dissertation: Precambrian Geology of the Picuris Range, North-Central New Mexico. 1987; advisor-Robertson.

Ted L. Eggleston - Dissertation: The Taylor Creek District, New Mexico: Geology, Petrology, and Tin Deposits. April 1987; advisor-Norman.

Brian David Leavy - Dissertation: Surface-Exposure Dating of Young Volcanic Rocks Using the In Situ Buildup of Cosmogenic Isotopes. December 1987; advisor-Phillips.

Richard Peter Lozinsky - Dissertation: Stratigraphy and Sedimentology of the Santa Fe Group in the Albuquerque Basin, Northcentral New Mexico. December 1988; advisor-MacMillan.

Anne C. Wright-Grassham - Dissertation: Petrologic Evolution of McMurdo Volcanic Group in the East Koehligtz Area, Southern Victoria Land, Antarctica. December 1988; advisor-Kyle.

Doctor of Philosophy in Geoscience (Geophysics)

Jon Preston Ake - Dissertation: New Evidence for the Existence and Internal Structure of a Thin Layer of Magma at Mid-Crustal Depths Near Socorro, New Mexico. May 1987; advisor-Sanford.

Jeffrie D. Minier - Dissertation: A Geothermal Study in West-Central New Mexico. December 1987; advisor-Reiter.

ALUMNI NEWS

Beth S. Abramson (M.S., Geol., '82) - Beth is presently working for an environmental geotechnical company as a project geologist, before this worked 5.5 years as an exploration geologist for several mining companies out of Reno, NV. Married a geologist 8-8-87 and is doing what she wants - living on the beach in Cardiff by the Sea (CA) and doing geology!

Don B. Adams (B.S., Geol., '71) - Don teaches chemistry, earth science, and ecosystems at Santa Rita High in Tucson, AZ. He represented Tech at Tucson's "College Night" for high school seniors this year. Don has been a director of the Federal Youth Camp (YCL) at Grand Canyon, Yosemite, and Yellowstone for the past ten years. He is married with two children, ages 7 and 10. Don was awarded the Arizona Science Teacher (High School) of the Year by the Arizona Science Teachers' Association in 1986.

Ron L. Akers (B.S., Geol., '74) - Currently enrolled as a graduate student at the University of Dallas in their MBA Health Services Management program.

Robert Joseph Andres (B.S., Geol., 1986; M.S., Geoc., '88) - Bob married Tina Behr in August of 1988 and is now a Ph.D student at Michigan Tech working with Bill Rose studying volcanic gas emissions.

Kent Anderson (B.S. Geop., '85, M.S. Geop., '88) - A co-op student with Air Force Weapons Lab while at Tech, did a masters study comparing the various ways of measuring seismic Q in highly attenuative media. This study compared fairly straight forward rise time and pulse broadening methods to sophisticated wave propagation techniques that requires use of a Cray supercomputer. The results indicated that even in highly attenuative media all methods give virtually the same answer so that the simplest and cheapest methods are the best to use. Now that he has graduated, Kent works full-time for the Weapons Lab in their geophysics group and gets to help record and analyze seismic data from large explosions all around the country.

Gregory C. Antonini (B.S. Geop., '75) - Spent 4+ years in Cairo, Egypt as chief geophysicist for Conoco Egypt before being transferred to Houston in May 1988. Currently responsible for all exploration/development on production licenses worldwide (outside U.S.) My wife, Kathy, and I had a second child, Kyle, born October 29.

Harold A. Backer (B.S., Geol., '75) - For last two years I have been working as a consulting geologist helping Australian companies to evaluate mining properties in North America for the purpose of acquisitions.

Bruce W. Baker (M.S., Geol., '81) - I am currently being transferred (from Cleveland, OH) to New Jersey for a two year assignment as a project manager for an RI/FS at an explosives facility. Wife Beth is tutoring reading part time and doing an excellent job raising our two sons aged 4 and 6.

Adel A. Bakr (Ph.D., Hydr., '77) - 1988 was an excellent year for me personally and for my family. As executive hydrologist for the NUS Corporation in Aiken, SC, I have been actively providing hydrologic consulting services to the DOE's Environmental Division of the Savannah River operations office. My wife, Salwa, obtained her South Carolina real estate license and is making progress in her new career. My daughter (Noha), through hard work, will graduate from high school and will start college one year earlier than expected. She will major in international development at the University of South Carolina at Columbia. My son (Yasser) will start high school in the fall of 1989. The best and most rewarding experience of our life took place in 1988. Salwa and I were fortunate to travel to Saudi Arabia, to perform the pilgrimage to Makkah.

Paul W. Bauer (Ph.D., Geol., '88) - Joined the NM Bureau of Mines and Mineral Resources in January of 1988 as a field geologist, working mainly in northern New Mexico.

Tor J.S. Bejnar (B.S., Geol., '76) - We are building the post and beam house we are living in here in New Hampshire. When our house is more nearly complete, I will seek employment as a geologist. Meanwhile, we deal with issues of housebuilding stress, conscience and military-related taxation, quality education for our children, and others.

Martin Bijak (M.S., Geol., '85) - Is alive (and apparently well) in Alfred, New York.

Michael Bikerman (B.S., Geol., '56) - Associate Professor of Geology at Univ. Pittsburgh. General Chairman of 1987 NE Section of GSA meeting in Pittsburgh; Co-Chair (Geology part) of Earth and Space Science judges for 40th ISEF (Science Fair). I have a grandchild, now 2 years old.

Yalcin Rezan Birsoy (Ph.D., Geop., '77) Associate Professor with the Engineering-Architecture Faculty of the Geology Department at Dokuz Eylul University, Bornova-Izmir, Turkey. I have a son and daughter names Orhun and Oniz.

T. Neil Blandford (M.S., Hyd., '87) - Hydrogeologist with HydroGeologic since February 1988. On August 23, 1988, we had a son named Austin Thomas.

Linda C. Merritt Bockoven (B.S., Geol., '77) - I recently "retired" from Exxon Oil and Gas to stay home with my two children. I moved back to Midland, TX, last summer with my husband, Neil, after eight years in Denver, CO.

Rena M. Bonem (B.S., Geol., '70; M.S., Geol., '72) - Associate Professor of Geology at Baylor University, Waco, TX. Just returned from a 9-month sabbatical that began with presentation of two papers at the International Coral Reef Symposium in Townsville, Australia. Following one month in Australia (studying the Great Barrier Reef), I visited other major reef systems in Micronesia, the Maldives, and the Red Sea to collect data for a book on coral reefs of the world. I also made tourist stops in the Philippines, Japan, Hong Kong, Red China, Singapore, Bombay, London, Paris, and Tel Aviv. After sorting through 99 rolls of film, I am teaching Paleo and Oceanography this semester.

Patrick Bowling (M.S., Geol., '87) - After leaving Socorro (and NM Tech) in February 1987, it took me nearly a year to find a geoscience-related (i.e., "real") job. My current position as Regional Hydrogeologist with the Pennsylvania Department of Environmental Resources, involves monitoring and investigating groundwater contamination cases for the state regulatory agency. While most of the work is related to leaking underground storage tanks, my duties also include the review of permit applications for wastewater impoundments and/or treatment facilities, evaluating groundwater monitoring data, reviewing consultants' reports on groundwater contamination, implementing hydrogeologic investigations and providing geologic or hydrogeologic information to the public or to other governmental agencies.

Robert Allen Boyd (B.S., Geop., '87) - Employed as a marine geologist at the Naval Oceanographic Office, Stennis Space Center, Mississippi.

Ronald M. Brimhall (M.S., Hyd., '69) - Ron received his Ph.D in 1986 and now enjoys teaching and research at Texas A&M. He has been lecturing in Bucaramanga for Ecopetrol's Colombian Petroleum Institute.

Terry Brown (B.S., Geol., '83) - Project consultant for exploration, development and feasibility of new open pit gold mine in the Atacama desert, employed by Glamis Gold/Mineras del Inca and located in Chile.

Harry B. Burgess (B.S., Geol., '53) - Geologist, Honorable Mention award in M.M.S. Fine Arts Museum, Santa Fe, NM; Member of the Santa Fe Arts & Crafts for many years, two years vice-president, two years president. Worked for the state of New York and New Mexico, Shell Oil Company and the A.E.C. Worked for Ward's Natural Science in Mineral Section. When I worked for New York, I did refractive seismology, electrical resistivity for the Dewey Thruway & other projects like St. Lawrence seaway. In Santa Fe, working as a geologist, for Reynolds electrical & Engineering I became an expert on low temperature infrared heating. I have two daughters, one living in Albuquerque and the other in Aurora, CO. I am moving from New York state to Colorado in January of 1989.

Randy L. Carlson (B.S., Geop., '75) - Staff Geophysicist with Mitchell Energy Corporation in Woodlands, TX.

Alan B. Carmichael (M.S., Geol., '82) - I have worked for HRP Associates since August 1987. We are a rapidly growing environmental consulting firm. There are currently openings for entry level geologists and engineers interested in the environmental field. Send resumes to: HRP Associates, Inc., P.O. Box 732, New Britain, CT 06051. Geologists mark their resumes attention of John Housemen (203) 827-0004 and engineers contact Mark Possidente at the same number. You must be willing to relocate to Connecticut.

Joseph C. Cepeda (M.S., Geol., '73) - Professor of Geology at West Texas State University in Canyon, TX, I still enjoy teaching and research work with students in Mexico, Texas, New Mexico, and Colorado.

William Xavier Chavez, Jr. (B.S., Geol., '76) - Graduated UC Berkeley in 1985 with MA in Geology and Ph.D Geology. Worked in northern Chile as mine geologist for largest private copper producer in Chile. Now employed as Assistant Professor in the Geological Engineering department at Tech, where work focuses on precious metals, geology of ore deposits in western US and South America. Awarded 1986 Volunteer Award by USDI for work done in conjunction with students involving mineral resource assessment on BLM Wilderness Study areas.

Alan H. Cheetham (B.S., Geol., '50) - Senior Invertebrate Paleontologist at the Smithsonian Institution, I am doing research on fossils and living Bryozoa of the Caribbean; serving as Supervisor of the Division of Invertebrate Paleontology of the Department of Paleobiology.

Carl Edgar Chesley (B.S., Geol., '86) - Air traffic control specialist with the Federal Aviation Agency.

Michael Austin Clevenger (B.S., Geop., '51) - General Manager of Western Removal Services, Inc. After two years of consulting in geophysics (fishing and traveling) I joined a start-up company for asbestos removal. Very exciting but interferes with the fishing.

James C. Collier (B.S., Geol., '85) - Employed by Tracor Northern as an SEM application specialist, I am really enjoying being a real person and am having fun getting to know Madison (Wisconsin). My wife, Cindy (Snyder) is working for a specialized research diets firm.

Paul R. O'Neill (B.S., Geop., '73) - I am employed by the Kuwait Foreign Petroleum Exploration Company as Chief Geophysicist and am looking at lots of rocks and seismic data all over the world.

Robert Moore Colpitts, Jr. (B.S., Geol., '76; M.S., Geol., '86) - Passed my candidacy exam in December of 1988. Am currently working as a consulting geologist but work is very, very slow right now. My dissertation work will address the various models (hypotheses) proposed for the development of low-angle

faults east of the Rio Grande rift at Socorro. In the meantime, I have developed a geologist's plotting template which I am slowly getting marketed. So far, the professors at Tech are enthusiastic about it, and several consultants have asked for them, so I'm hoping it will sell. Recently (November) I had a paper of which I was co-author presented in the Peoples Republic of China. It should soon be published in the Journal of the Society of Petroleum Engineers. I also have professional certification pending before the American Institute of Professional Geologists. I was elected to full membership in Sigma Xi and the American Association of Petroleum Geologists this past summer.

Theresa, Marie Cookro (M.S., Geol., '78) - Geologist with the USGS in Denver, recently attended a UN-sponsored conference in Japan and Korea on tin and tungsten deposits in the Pacific rim. Gave a talk on skarn deposits in the western U.S.

Al T. Cooper (B.S., Geol., '73) - Mine engineer with ASARCO at the Mission Mine, I worked one and one-half years for the Idakado Mining Company at Ouray, CO, and eleven years with ASARCO, where I am currently involved with supervision and core logging in a diamond drilling program. I am married and have two sons, Jason, age 15, and Kyle, age nine. I am very active in the Scouting program of Catalina Council B.S.A., as clubmaster, Assistant Scoutmaster, Scouting Coordinator, 1987-88 Cub Leaders Pow Wow Chairman and received the 1986 District Award of Merit.

Rick Corbitt (B.S., Geop., '74) - Senior Staff Geologist. I am involved in Meridian's oil play in the Williston Basin utilizing the drilling of horizontal wells, sometimes several thousand feet in horizontal distance. I am staying busy enjoying hunting and fishing in Montana and I am still active in jogging, softball and volleyball. Another interest I've acquired the past few years is learning German and I've been taking a lot of adult education German courses. Tell Herr Doktor Gross "Wie Gehts" for me!

Warren B. Cox (M.S., Hyd., '88) - Research Hydrologist for Fenix & Sisson, Inc., I am presently doing research on the proposed high level nuclear waste repository at Yucca Mountain, NV.

Charlene L. Wardlow Crockett (B.S., Geol., '79) - I was promoted to Assistant Manager of Environmental and Public Affairs. The Santa Rosa (CA) office is responsible for permitting, hazardous waste, and just about any regulation that concerns the environmental side of Geothermal in California not only at The Geysers but also in the Imperial Valley of southern California. I am also entertainment chairman for the Geothermal Resources Council (GRC) 1989 annual meeting to be held in Santa Rosa in October. Hope to see some "Techies" there!

John Brian Czarnecki (M.S., Hyd., '78) - Received Ph.D in hydrogeology from Univ. Minnesota; singing opera with Opera Colorado (bass in the chorus); active snowboarder and snow sailor. Recently backpacked the Paria River/ Hackberry Gulch system in Utah; am planning 9-10 day backpacking trip over Christmas in the Dirty Devil River System (Utah). Hydrologist at USGS Water Resources Division in layoffs, including a seven year tour of living in Houston, TX. In April 1987, my wife and two daughters and I were relocated to Reno, NV. I am currently supervising exploration activity for gold in eastern and southern Nevada. Previous assignments for precious metals and uranium have included: south and west Texas, Wyoming, northern Nevada, North and South Carolina, and Idaho. Katie is a teacher's assistant at the elementary school where our daughters attend. Both daughters will be approaching their teens much too quickly!! Nicole is determined to be a fighter jet pilot, while Jessica wants to be a veterinarian! I am seeking a one-way ticket to New Zealand!

Raul A. Deju (Ph.D., Hyd., '69) - I was appointed Vice President of Chemical Waste Management in charge of the western region of the company. Chemical Waste Management is the largest provider of hazardous waste management services in the world. Operations in the western states include states from the Rocky Mountains to the Pacific, from Alaska to Mexico. I was appointed to the Board of Directors of the California Engineering Foundation.

John Paul DeMelas (M.S., Geol., '83) - I moved to Oak Ridge in August 1987 with my wife, Roberta, to assume my new position as a geologist working for Roy F. Weston, Inc. Since moving to Tennessee I have been accepted as an Associate by AIPG and have been certified as a Registered Professional Geologist by the state of Tennessee. Currently my work involves aspects of environmental geology, hydrogeology and personal health and safety of workers working with hazardous materials and wastes.

Fred Dube (M.S. Geop., '88) - Worked on studying the earthquakes near Cape Mendocino, CA. In particular, he found that of nearly 14,000 earthquakes occurring over a ten year period in northern California, 92% of them occur at Cape Mendocino. The rate of seismic activity here is more than 11 times greater than the immediately surrounding area yet has a b-value of 0.8 which is very similar to the surrounding regions of northern California. Fred now works as a geophysical programmer/analyst for Western Geophysical in Houston.

Christopher J. Duffy (M.S., Hyd., '77; Ph.D., Hyd., '82) Associate Professor of Civil and Environmental Engineering at Utah State University, I recently returned from a sabbatical year at Cornell University (Aug. '87-88). Sue, my three children, and myself will be moving to Pennsylvania next August. I have accepted a faculty position with the Civil Engineering department at Penn State.

Thomas A. Duval (M.S., Hyd., '86) Currently employed as project manager and groundwater hydrologist by Goldberg-Zoins and Associates, Inc.

Edward Ericksen (B.S., Geol., '60) - I returned from Wyoming in September of 1987 and was recently elected (November 88) to the Socorro County Commission. Presently am raising registered polled Hereford cattle and looking for employment to balance my duties as Commissioner.

Stephen K. Falkowski (M.S., Geol., '80) - Senior Minerals Geologist with Billiton Minerals, U.S.A. (division of Shell Oil), I am actively exploring for gold in the western US, mostly in California. Was geologist responsible for discovery of the Standard Hill Gold Mine, near Mojave, CA. I was married to Audrey in 1987. I enjoy motorcycling around the countryside and working around the house.

Paul Thomas Farquhar (M.S., Geol., '76) - Employed as environmental director by Guaranteed Products of Colorado.

Charles A. Ferguson (M.S., Geol., '85) - After leaving Socorro I worked for a couple of years at the Oklahoma Geological Survey in Norman, OK. I was a field geologist making 1:24,000 scale maps in the Ouachita Mountains. I discovered that I did not know enough about structural geology to do the job properly so I decided to go back to graduate school. I started at the University of Calgary in September of 1988. I will be working in the northern Cariboo Mountains where the exposure is just a bit better than in Oklahoma. P.S. Send green chile!!

John William Fleming (B.S., Geol., '80) - I have begun teaching geology and geography at Wallace State Community College - this is the first geology course the two-year school has ever offered; January 1989 will begin the third year - classes include survey of geology, general geology I, II, and III (which is a summer field course). The school is also offering Physical Geography as a social science elective. The first class had six people but now the classes have averaged over twenty people per class. I ask anybody who is interested in helping me build a geology department at this school to contact me with ideas at this address: Route 2, Box 69, Blountsville, AL 35031. North central Alabama is a very geologically unique place. The company of which I am president and a petroleum geologist, IRA Energies, Inc., and Fleming Enterprises have drilled a 6,500' Ordovician test well which is the deepest test in northern Alabama and is presently drilling a 4,000' test in the Tennessee Valley of northern Alabama.

Priscilla Mary Steinmetz Frake (B.S., Geol., '81) - Presently I am in geophysical training in the development geophysics group with Chevron U.S.A. here in Midland, TX.

Thomas L. Gibbons (M.S., Geol., '82) - Now an Engineering Geologist with NY State Department of Environmental Conservation, I left Exxon U.S.A. (in Midland) in March 1988, after six years of service. I became employed with NYSDEC in April of 1988. I work in the division of hazardous waste remediation. My work involves project management of sites in downstate NY. I was married to Jacqueline M. Lafferton in 1981 and we have a two and one-half year old daughter, Mary Katherine.

April VanCamp Gil (B.S., Geol., '84; M.S., Geol., '87) - I presented the citation for Rousseau Flower for the Paleontological Society's medal at GSA in Denver; this was the first post-humous presentation of the award. My thesis was published in NM Bureau of Mines Memoir #44. I am currently in charge of the Soil Department for Inter-Mountain Laboratories, an analytical environmental testing laboratory; I am EPA certified for bulk asbestos analysis. I also teach Geology and Chemistry at San Juan College, a local junior college. Yes, there is life after graduate school!

David Latham Goodrich (M.S., Hyd., '78) - Senior Geologist with Westinghouse Environmental Services. I am a member of the American Institute of Hydrology, the International Association of Hydrogeologists, and am now a registered professional geologist in the state of Tennessee. I am also a frequent contributor to the Consultant's Collection column of the NWWA's Water Well Journal trade magazine.

Kenneth A. Grace (M.S., Geol., '65) - My colleagues and I recently left the firm of Coopers & Lybrand to form our own mining consulting practice. Micon International Ltd. This company is comprised of geologists and mining engineers, headquarters in Toronto, with representatives in Denver, Vancouver, and Perth, Australia. Mining is booming in Canada and we plan to be part of it!

Bertrand Pierre Gramont (M.S., Geol., '87) - I graduated in Geology, now I am translating, drafting, and formatting reports for Geoexplorers International, Inc. Nothing much related to Geology.

Julie A. Gaynor Hagenbuch (B.S., Geop., '80) - I am employed by Telephone Communications Corporation as the Steamboat Springs, CO, as Area Manager. Besides this full time job, my husband Kris and I have a decorating business called Wall Designers. We have special rollers that roll patterns onto walls. It's like wallpaper, but it is paint. We are active in the local Chamber of Commerce and in the local ski racing community.

Richard Wayne Harrison (M.S., Geol., '80) - I am a Ph.D candidate in Geology at NM Tech.

Dan J. Hartmann (B.S., Geol., '63) - DJH Energy Consulting, as owner, I am completing my fourth year as a consultant in the oil and gas industry. Business is good for training and consulting. I am able to acquire leases and producing properties for investors. I assisted in the formation of an underground water district for the Texas Hill Country, to monitor water usage, develop resource maps and identify pollution hot spots. I have been asked to co-chair a session with Dave Martin at Tech's PRRC in October of 1989 on "Petroleum Technology into the 2nd Century;" the session is "Oil and Recovery."

Hans Harste (M.S. Geop., '87) - Finished his masters project on depth transforming multi-offset vertical seismic profile data and has entered our Ph.D. program. Hans found that the VSP depth transform behaves similar to stacking in that it actually improves the signal to noise ratio of the seismic data. Furthermore, the use of multi-offset VSP data not only further improves the signal quality but also improves the resolution of dipping structures and is a powerful modeling tool.

Patrick Eugene Haynes (B.S., Geol., '81) - I have been working for Nielson's Inc., a construction company, for the last three and one-half years as a geologist. I test aggregate, estimating "dirt" for job bids and doing a little seismic work. My wife, Mary Anne, passed her histology registry examination and is working at the local hospital. I have been collecting mineral specimens as often as time allows and selling at one or two shows annually. I got lucky in 1984 - while out thinking that I was collecting durangite, I was actually picking up what was to become a new mineral species - Maxwellite (for Charley Maxwell with the USGS). Maxwellite is the iron analog of durangite. Found with it was a new oxide which was named after the locality, hence, Squawcreekite. The two minerals were approved by the International Mineralogical Association in 1987.

Sydney E. Helprin (B.S., Geol., '28) - (Retired) During my productive years I edited the manuscripts of a variety of scientific books by prominent authors on subjects ranging from nuclear physics and quantum mechanics to geology, paleontology, and citrus-fruit farming in Israel. In 1986, my own first book entitled Guide to European and Asian Games was published by Gambling Times magazine. The book was based on notes taken in foreign casinos during annual trips abroad following my retirement in 1970. I am currently researching the background for a proposed novel about pre-Castro Cuba, where I worked long ago as a mine geologist.

Ward Eugene Herst (M.S., Hyd., '86) - Geohydrologist with TRC Environmental Consultants, Inc., I am finally settling down. First baby expected in May of 1989. My wife and I both love Denver. We do a lot of primitive camping, mountain hiking and my favorite hobby is working on my house. I see it as a big toy. In one and one-half years we have put in landscaping, a sprinkler system, remodeled the kitchen, painted, etc. As far as work goes, I am constantly amazed at how much value is placed on a Tech degree by employers in this area. Attending Tech was the best decision I ever made. My ultimate career goal is to someday move back to New Mexico. But until that time I intend to enjoy all that the Denver area has to offer. Special thanks to Steven Conrad, Robert Knowlton, Nancy Jannick, and Daniel B. Stephens for their support during my stay at Tech. It all seems worth it.

Howard Criner Hodges (B.S., Geol., '57) - Employed as an exploration geologist by Midland Phoenix Corporation in Midland, TX.

Jack E. Howell (B.S., Geop., '79; M.S., Geop., '83) - After leaving Tech in 1979, I worked for Conoco for nine months. I then returned to school at the University of Utah for a Master's degree in Geophysics. Conoco rehired me in June of 1983. I married Ginger in 1986. She is currently enrolled at Oklahoma State University, pursuing a degree in landscape contracting.

Hames B. Hulsey (B.S., Geop., '61) - Employed as Section Chief of the Missile Ground Instrumentation Section by New Mexico State University in the Physical Science Laboratory.

Steve P. Jarpe (B.S., Geop., '82; M.S., Geop., '84) - I have worked at Livermore National lab for four and one-half years doing research in verification of nuclear testing limitations using seismic signals, seismicity of geothermal reservoirs, earthquake hazard assessment, and development of hardware and software for acquisition and processing of seismic data.

John Eric Jenkins (B.S., Geol., '80; M.S., Geol., '85) - I was recently married in October. Since receiving my M.S. in geology in 1985, I have been working in the hazardous waste field, mainly in southern California. There is plenty of hazardous waste (and jobs) to go around so give me a call (if you're seeking employment).

Janine Jennings (M.S., Hyd., '86) Employed as environmental scientist by Environmental Health Sciences, Inc. in Seattle, WA.

Dean Johnson (M.S., Geop., '53) - Employed as senior technical editor by Beckman Instruments in Whittier, CA.

Jim A. Johnston (M.S., Geop., '78) - Employed as production geology and geophysics supervisor by Mobil in Slidell, LA. I spend most discretionary time with daughters Karina, six and one-half years, and Kelci, two and one-half years. My wife Pam tries to keep up with all their extracurricular activities.

Thomas Charles Johnstone (B.S., Geol., '58) - I started with Swift in July of 1988 (as their Reservoir Engineer).

Terrell C. Jones (M.S., Geol., '86) - Science Chairman at Clayton Public School System, I teach biology, chemistry, physics, and Spanish I & II as the head of the science department. I am married and have two children.

Joe Keeney (M.S., Geop., '64; Ph.D., Geoc., '68) Works for DynCorp at Holloman AFB, NM.

Becky Anne Perry Kelher (B.S., Geol., '68) - I am self employed as a wildlife artist specializing in southwest birds and animals. I work in black and white and color media.

Leel Knowles, Jr. (B.S., Geol., '83) - Graduated in May 1988 from the University of Florida with M.S. in environmental engineering. Developed and patented PC-software package for tracking small quantity generators of hazardous wastes. Current work includes building and analyzing database information concerning groundwater and surface water for USGS in Jacksonville.

Curtis Alan Kruger (B.S., Geol., '82) - Project hydrogeologist for RMT, Inc. since June 1988, after four years with SAIC. I am involved with RCRA-type groundwater quality investigations. I married the former Caroline Jefferson Coward on November 26, 1988, in Beaufort, SC.

John A. Kruppenbach (B.S., Geol., '51) - Last Energy Analysts, Inc. merged into Landmark Graphics, Inc. Landmark is a very exciting new company which went public a few months ago.

Kenneth R. Lemley (M.S., Geol., '85) - I am a geologist with Fina Oil and Chemical who recently acquired a portion of Tenneco. I worked on the acquisition team. As a result we are moving our offices to Houston, TX, in January of 1989. I married April Miller, who attended Tech 1981-84, and we have a son, Justin, who was born August 11, 1988.

Amy Lynn Childers Lewis (M.S., Hyd., '85) - Employed as Water Resource Specialist by the Environmental Improvement Division in Santa Fe, NM, I married Greg Lewis on June 18, 1988.

Roger Scott Lowe (M.S., Geol., '81) - Employed as senior production geologist by Mobil Oil Corporation in Mandeville, LA, Roger and his wife Mary now have two wonderful children, Sara Elizabeth, age six and one-half, and Mark Tasco, 18 months old.

Stephen E. Lucas (M.S., Geol., '75) - I took a B.S. in Computer Science and graduated in December of 1987 from Central State University in Edmond, OK. I wanted to get out of the oil business!

Kenneth Mark Mallon (M.S., Geol., '66) I am employed by Landmark Graphics Corporation to manage a team in Zhuo Zhou, Hebei Province, PRC. My team and I will teach Chinese geoscientists the use of Landmark's seismic workstations and assist them in interpretations of oil and gas prospect areas

Michael D. Mancuso (B.S., Geol., '75) - Market research analyst for Honeywell, Inc., I am married to Christina and we have three children, Michael, Christina, and Michelle. I was previously with Perkin-Elmer in Danbury, CT, and Dresser Atlas in Houston, TX. Attained MBA from University of New Mexico in 1978.

Don Marshall (M.S. Geop., '88) - Worked on an f-k filter method for removing spatially aliased ground roll and air wave noise from reflection seismic data. This process consists of two steps in which the raw data is time shifted so that the coherent noise has a new almost-infinite apparent velocity. In the time-shifted data the undesirable signals are no longer aliased and can be removed by conventional f-k filtering. After filtering the data it is time shifted once again to restore it to its original form (less the noise, of course). This method seemed to work quite well on some data donated to us from several oil companies. Don can now be counted on for shrimp and crayfish shipments from New Orleans, where he is working for Mobil Oil Corp.

Joe Maulsby (M.S., Geol., '81) - On September 1, 1988, I was transferred from exploration in the Ark-La-Tex district to geologist for newly formed Acquisitions department. January 3, 1989 marked my seven year anniversary with Ensearch Exploration, Inc.

David Lugar McCorkindale (B.S., Geop., '80) - Project geophysicist for Dubai Petroleum Company in Houston, TX.

Brian E. McGurk (M.S., Hyd., '86) - Employed as a hydrologist with St. John's Ridge Water Management District in Florida.

John Curtis McKallip (M.S., Geol., '85) - Consulting geologist with Siete Petroleum in Midland, TX, I gave a talk in November 1988 at a local symposium held on the subject of microcomputers in Geology. The topic was "Autocad Maps from DBASE III Files" and it covered the regional study I had made of production patterns in RRC District 8 in 30 different formations. Parts of the study have been published in the Oil and Gas Journal and other places. Besides geology, I have been working on econometric models for oil prices and marketing several computer programs.

James V. McLemore (B.S., Geol., '77) - Employed as Technician and Machinist at PRRC, New Mexico Tech.

Virginia T. Hill McLemore (B.S., Geol., '77; M.S., Geol., '80) - Geologist at NM Bureau of Mines and Mineral Resources for eight years. Articles in professional journals on carbonates, gold and silver in NM, uranium in NM. I am an organizational leader with the 4H club and am a member of NM Highpower Service Rifle Team 1986-89, and a rifle coach.

Richard Neil Molsbee (B.S., Geol., '80) - Currently enrolled in M.S. program in Hydrology at NM Tech.

James Moore (M.S., Geol., '86) - Employed by Echo Bay Minerals Company at the McCoy Mine at Battle Mountain, NV, as a mine geologist.

Julio Montano (M.S. Geop., '88) - A student from Bolivia by way of London, Julio set up an interactive ray trace package on Tech's SUN workstations. We can now trace rays at NM Tech thanks to Julio. He did some modeling studies in an attempt to understand how to interpret head wave data recorded by a vertical array of geophones down a borehole. Amoco's international group working out of Houston has hired Julio on a temporary basis until he can get his "green card." Because he is fluent in both English and Spanish, they anticipate Julio will be an asset to Amoco's South American exploration program.

Lewis R. Nelson (B.S., Geol., '71) - Registered Civil Engineer responsible for wastewater engineering, hazardous waste management, industrial pretreatment program, water conservation, and utility billing. Occasionally miss mining, but stability of municipal engineering has advantages. I am the geology member on Tulare County Hazardous Waste Management Advisory Committee (Tanner Process). Committee is developing hazardous waste management plan required by state law of each of California's fifty-eight counties. Appointed by Board of Supervisors based on Geology degree from New Mexico Tech and ten year mining career.

Preston Louis Niesen (B.S., Geol., '66; M.S., Geol., '70) - Employed as project geologist by Cotter Corporation at Lakewood, CO.

Kathy Muller Ogle (M.S., Hyd., '82) - I am currently doing research on the water resources of the owl Creek Mountain area, Wyoming. I am also spending time on herbicide contamination and recharge to mine spoils. I serve on the editorial board for Groundwater. I am married to Philip Ogle and we have a two-year-old son named Raymond Paul.

Jerry J. Oliver (B.S., Geol., '69) President, AFT, a subsidiary of SP America. No change since December of 1987.

Paul R. O'Neill (B.S., Geop., '73) - I am employed by the Kuwait Foreign Petroleum Exploration Company as Chief Geophysicist and am looking at lots of rocks and seismic data all over the world.

David Christian Parris (B.S., Geol., '66) - Curator of Natural History at New Jersey State Museum.

David Max Petty (M.S., Geol., '79) - Senior Exploration Geologist with British Gas in Houston, TX.

Scott Miller Phelps (B.S., Geop., '85) - Graduate student and research assistant at California Institute of Technology.

Rich R. Rabold (B.S., Geop., '82; M.S., Hyd., '85) - Rich and BJ (married in Socorro in '78) now have four children: Megan, 7; Melissa, 5; Tyler, 2; Timothy, 3 months. I am managing the newly opened GeoTrans, Inc. office. GeoTrans is a groundwater consulting firm that works in all aspects of groundwater problems.

Andrew Glenn Raby (M.S., Geol., '82) - Geologist with the US Forest Service in Colorado, I am still playing "Smokey Bear" in the southern Rockies. Not much mineral activity here, but the beautiful country makes up for it. I hope all you Techies are doing well.

Jacques R. Renault (M.S., Geol., '60) - Senior Geologist with the NM Bureau of Mines & Mineral Resources, see comments in Faculty News section.

Donald H. Richter (B.S., Geol., '50) - After two years of retirement, I decided to "unretire" and return to the Branch of Alaskan Geology in Anchorage. I had been very slowly working on the Wrangell Volcanic field since we left Alaska in 1975, but realized that I could never finish this self-imposed project as a retiree. Anchorage has changed a lot in our thirteen year absence, but it still feels like home and we are enjoying every snowflake.

Sylveen E. Robinson-Cook (M.S., Geol., '86) - Project geologist with GZA-Marshall. Kevin Cook and I are still working hard in Michigan. We both have been closely involved with several industrial revitalization projects in the Detroit area. Needless to say, we are quickly reacquainting ourselves with glacial geology? Hello to everyone. Our company is always looking for good people - especially Techies!

Stephen Dennis Rosen (M.S., Geol., '87) - It is nice to see that both the Masthead and name developed by Mike Palin and me is still being used, even though it is no longer a weekly geoscience newsletter. Anyway, the end of 1988 finds me typically busy and looking forward to 1989. This was an especially interesting year for me and my career. In early February, Univision (the Spanish language network - bigger than FOX, Turner, ESPN, etc.) was purchased by Hallmark and the following transition resulted in increased responsibility for me and a new management. Currently, I have full responsibility for all of the personnel and operations associated with both the network operations and Laguna-oriented television productions, as well as the network program feed delivered to over 500 television affiliates across the country. With the Network Operations Center in Laguna housing the Network Programming Uplink, the National News Department and the Sports Department, along with the supporting infrastructures, I have been involved in a lot of different Network television projects and productions. In 1988 I found myself intimately involved in the Democratic and Republican Conventions, as well as our seven-hour marathon of "live" election night coverage. I have been involved in the production of Sports events (i.e., the 1988 Olympics) and other programs, working closely with both major league baseball and the NFL (being an ex-jock this is near and dear to my heart) and

liaising both the network and affiliates with the network sales, research, promotions, and programming departments. On a public service end, I have gotten involved with an organization called NALEO, a national citizenship organization for Hispanics, and helped them produce their national television campaign. However, I must confess, even through all the excitement and responsibility, I still find myself occasionally thinking of the creativity and solace associated with geologic research (I miss those days wandering the New Mexico desert - never thought I would!). Finally, an open invite. If anybody is interested in visiting this place (Broadcast News doesn't come close!) give me a call. We do a live National Newscast ala NBC Evening News, or, Dan Rather, every day and always have some excitement. Hope everybody is well.

Zubair A. Saleem (Ph.D., Hyd. '69) - Chief of Models for US EPA in Herndon, VA.

William A. Schell (B.S., Geol., '73) - System Administrator in Engineering, the IC Design Center - Computers, for Motorola Semiconductors, Hong Kong.

Randolph Brian Senn (M.S., Hyd., '80) - Senior Scientist, Geraghty & Miller, Inc. Manage groundwater contamination and water supply projects at sites throughout the US. Married with two children, Christopher, 8, and Amanda, 3.

Herman W. Sheffer (M.S., Geol., '63) - Retired from the Bureau of Mines, US Dept of the Interior in 1986 after twenty six years of service. Am presently President of Marzip, Inc. and marketing a board game designed by me called Response that is not on the national market; it is an educational word game. I am a representative in Washington DC area for Flame Tree Imports, Ltd., a company that imports verdite carvings, sterling silver, ivory, verdite jewelry, candles, etc. from Swaziland and tapestries from Losotho for wholesale in US.

Lisa Ann Shevenell (B.S., Geol., '85) - I am currently pursuing a Ph.D in hydrogeology at the University of Nevada-Reno, and working part-time on my thesis at the Desert Research Institute. I received the George Burke Maxey hydrology fellowship (available only in Nevada) for the 1988-89 academic year for my research on the hydrothermal system at Mt. St. Helen's, Washington. I plan to complete my Ph.D program in the summer of 1990.

D. Jay Siebens, Jr. (B.S., Geop., '85) - I am back with ARCO for over a year now. Just moved from working offshore California (Santa Barbara Channel) to onshore (San Joaquin Valley). Have been doing the typical; seismic interpretation, seismic reprocessing, data acquisition, velocity modeling, 2-D synthetic modeling, as well as various computer applications to exploration. Presently very heavy into seismic stratigraphic interpretation given my present area of interest.

Personally, I have been mountain biking, windsurfing, cross-country and downhill skiing and backpacking Yosemite. I have two recommendations: 1) everyone ought to take up windsurfing (I guess that's California), 2) seriously though - geophysics students with any interest in working for an oil company need to include Sedimentation/Stratigraphy and Depositional Environments. If there was a course that would have been helpful in college, this would have been one. There are many companys as well as AAPG, SEG, etc. courses available with the current ideas regarding stratigraphy. Sed-Strat would simply help students hit the ground with both feet. With oil industry in its current condition, I believe additional geology for the geophysicist is an asset. I would be interested in hearing more about some of the work going on in the department. (Jay - I did offer a course in Depositional Systems when you were here. Why didn't you take it? ed.)

Joel Siegel (M.S., Hyd., '80) - I have been a resident of Denver, CO, since leaving NM Tech in 1980. My wife, Rose, and I have a 16-month old son named Adam. I have been practicing groundwater hydrology in a consulting capacity. Projects include mine dewatering, water supply, and groundwater contamination and remediation projects.

Alison Caroline Simcox (M.S., Hyd., '84) - I now work four days a week at the USGS in Boston as a hydrologist. One day a week I teach two laboratory sections of a course in physical geology at Salem State College. Douglas L. Heath (M.S., Hydrology, '84), my husband, is employed as a hydro-geologist at the EPA in Boston and recently received the EPA's Bronze Medal for commendable service for his work on Cape Cod. We have a rambunctious three-year-old son, Ian, who also likes to play with rocks and water.

Brad F. Simmens (B.S., Geol., '80) - Since leaving Tech, my wife, Hollis, and I have lived and worked in the Denver area for the past eight years. Since working for two independent oil companies in the early '80's, I have been consulting on my own for the past four years. I am currently involved in a secondary recovery project employing renovative geophysical methods to enhance and monitor production.

Hollis and I had our first child, a daughter named Jessa Rashelle, on March 12, 1987. We are hoping for another oil boom before we expand our family. Jessa may be an only child. Would love to hear from our old/young Tech friends.

Mark J. Simonett (M.S., Hyd., '81) - I have a son, Adam, age 4, and a daughter, Katie, age six months. I worked for five years on groundwater contamination problems, first with a consulting firm and then with a regulatory agency, both in Minneapolis. I plan to practice environmental law with a large law firm in Minneapolis, starting in January of 1990. My wife, Sue, works at General Mills headquarters as an information systems planner.

Edward "Preston" Smith (B.S., Geol., '79) - Professional student and western traveler (drifter..) who is still single. Took an MBA in December of 1982. Old dog, Zonker, murdered by a Great Dane in 1983; new dog, Mica, is four and one-half years old now. The old Airedale terrier weighs 80 pounds. I just returned to Tech to pursue a third degree.

Karen L. Spray (B.S., Geol., '83) - I completed my master's degree at the University of Kansas in 1986 after which I worked as a hydrologist with the Wyoming department of Environmental Quality. During the summer of 1988 I made a career move to private industry and joined Science Applications International, where I act as a manager on hazardous waste environmental assessment sites; my current primary site is near Ogden, UT. Lots of travel is involved and I love the day-to-day challenges. Next step is a house in the mountains and pets!

Mary Eileen Stollenwerk (B.S., Geol., '87) - For the year August 87-88, I worked as a geologist for Westmont Mining, Inc. in the Nevada gold boom. I am currently still employed by Westmont in the Denver office where I evaluate the geochemical data from our exploration programs. I am also enrolled in the geology master's program at the Colorado School of Mines. I am studying mineral deposits and expect to finish at CSM in December, 1990.

William Washington Strong, Jr. (B.S., Geol., '81) - Not much news to report other than my moving a few blocks west to a better apartment. Maybe when the price of oil goes back up I might return to being an oilfield geologist in Texas - but until then, I'm having fun out here (West Hollywood, CA). The weather is great!

Tousson R. Topozada (M.S., Geop., '70; Ph.D., Geop., '74) - I am working on mitigating earthquake hazards in California. Am planning scenario for a major earthquake on the Newport-Inglewood fault zone in southern California was completed in 1988. Plans for 1989 include critical review of the earthquake history in the area of Parkfield prediction and updating the state epicenter map. Wife Jill teaches piano at home. Daughter Flaval is at UC Davis and is a violinist with the Davis symphony. Son Amr is a junior in high school and plays varsity soccer and tennis.

Linda K. Trocki (B.S., Geol., '76) - I worked at Los Alamos as a staff member on graduation from Tech. From 1978-80, I was employed by the International Atomic Energy Agency in Vienna as a geologist. I attended Pennsylvania State University during 1980 and 1981 and was supported by a University Fellowship. I obtained my M.S. in geochemistry in 1983 and my Ph.D in Mineral Economics in 1986. I resumed employment with Los Alamos as an economist in 1983. At Penn State, I received an ARCO "Outstanding Student of the Year" award. At Los Alamos, I have authored studies on the energy situation in Central America and the Soviet Union. I am presently devoting my efforts to issues of national security. My husband, Kenneth Apt, is also a scientist at Los Alamos.

Mark R. Tucker (B.S., Geop., '87) - I have set up my own firm, following the purchase of a Geonics EM38 & EM31, to service the Civil Engineering community. We undertake shallow EM investigations to locate and map cavities, groundwater, buried services, archaeological remains, etc. The system also communicates with other network workstations using highly sophisticated mapping software such as Intergraph.

Studies are currently under way to automate the software identification process for improved commercial benefit, which may lead to the setup being available in Europe and North America in the near future.

Thus far both the government and private sectors have availed themselves of this unique service. I have been asked to present a paper summarizing some of the regional geophysical-engineering applications at the first regional conference of civil engineers. I've got a great tan, too!

Allison T. Urbon (B.S., Geop., '83) - I have (happily) moved out of California and back to Nevada. My son, Nicholas, is now in the second grade and doing just great in school (and otherwise). I am active working at hazardous waste sites and leaking underground storage tank sites for site characterization and cleanup design and implementation. I am heading my company's Las Vegas office underground storage tank program and loving every bit of it (okay, most of it).

Dominador C. Uy (M.S., Geol., '66) - Chosen most outstanding alumnus of 1987 in Mining Engineering - Mapua Institute of Technology, Maula, Philippines; Chairman, Philippine Board of Examiners in Geology, 1987-; licensed in the Philippines both in Mining Engineering and in Geology. During the slump in copper, was given a new job handling purchasing and doing very well. Just goes to show that a geologist can handle anything and survive anywhere, be it in the jungle or in the "jungle" of concrete high rises. Went on vacation in 1984, drove to Socorro, NM, and talked briefly to Dr. Clay T. Smith. I was pleasantly surprised at all the changes in the campus.

Shirley Carol Wade (B.S., Geop., '87) Currently a graduate student in geophysics in the master's program at University of Wyoming.

Jeff L. Walker (B.S., Geol., '85) - Still playing rugby (a nasty habit picked up in Socorro) and working a field engineer for Western Technologies in Albuquerque.

David B. Watson (M.S., Hyd., '83) - Hydrogeologist with CH2M Hill in Redding, CA.

Len A. Weingarh (B.S. Geop., '83) - Supply Specialist for Alaska Army National Guard, is moving in July to the Defense Mapping Agency.

Thomas W. Weisbecker (B.S., Geol., '74) - Was the Exploration Superintendent for Mobil E&P-US, in Midland, TX, but as we went to press, we learned that he has just this winter) been transferred to Mobil Exploration Med. Inc. in Ankara, Turkey.

Praphass Wichagul (M.S., Geol., '84) - I am working in coal exploration, evaluation and utilization within the country of Thailand and abroad, or with consultants who have business in Thailand. I am married with Pensri Jajanapanich (Penny), who is also a Tech alumna, in 1985. We have two children, a boy three and one-half years old and a daughter a little more than one year old.

Paul Kenneth Wieg (B.S., Geol., '84) - Received a M.S. in Science (Geology) from Duke University in 1987. Title of thesis: Deposition and diagenesis of Knox Group dolomites, NE TN. Currently employed as a geophysicist in exploration for Exxon U.S.A. in Denver.

John Peter Wilshusen (B.S., Geol., '61) - Chief of environmental geology division and associate state geologist. Fourth child soon will graduate from University of Vermont, Burlington. Youngest daughter is a Bucknell graduate in Voice and Theater, NYC. Second daughter is a watershed biologist who graduated from the Evergreen State College. First daughter graduated from LBJ School of Public Affairs in Austin and now works with the Texas budget committee. My wife is a nurse at the Pain Clinic at the Hershey Medical Center, PA.

Steve Zody (M.S. Geol., '88) - Steve's masters thesis involved using refraction methods to map out the water table beneath the Rio Salado near the rest area on I-25 just north of Socorro. His estimated depths to the water table agree remarkably well with water well data taken by Dan Stephens (seismic refraction really works) and provided an accurate means of mapping the water table between the wells. He specifically pinpointed the location of a several meter drop in the elevation of the water table that was hypothesized to exist between water well locations. Steve now works for Mobil Oil's domestic group in Midland, TX.

... and then the late arrivals ...

Tammie-Rae Keeler Bouchard (B.S. Geol., '86) - I have taken a job as a geologist for an environmental testing laboratory on Long Island. I married my high school sweetheart Gary Bouchard on November 26 at the Grace United Methodist Church in Newburg, NY. Maria McBrayer (B.S. Geol., '85) was a bridesmaid. I am editing my M.S. thesis on vertebrate paleontology at the South Dakota School of Mines.

WE NEED



YOUR HELP

Each of these newsletters finds some way to ask for contributions and this one is no exception. In previous years, Alumni contributions to the department have been used to fund a variety of useful activities that would not be otherwise funded. These have included student travel to conferences and expenses related to student research. This marvelous new building that we are now in, did not come with new teaching or laboratory equipment. In many cases old equipment was simply moved into the new building. Although enrollments are not as severely affected at Tech as at many other schools, enrollments are down here too. Because our instructional budget is driven by formula and because the legislature is less inclined to fund education these days, we are under continuing financial pressure. In short, your financial support is more important than ever.

CHANGE OF ADDRESS

Among the things we've learned in the time that we have been producing TECHtonics is that our Alumni are constantly on the move. If you have moved or do move in the next year or so, let us know. All changes of address that we receive go directly to the Alumni Office to update their files.

Name _____
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City State Zip

Is this a new address (yes/no)? _____

Company/Organization Affiliation _____

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TECH Degrees (degree/major/year)

Please return to: TECHtonics, Department of Geoscience, New Mexico Tech, Socorro, NM 87801