



DEPARTMENT OF GEOLOGY NEWSLETTER
COLLEGE OF ARTS AND SCIENCES
WESTERN MICHIGAN UNIVERSITY
KALAMAZOO, MI 49008

Volume 1 No. 16

December 1991

Dear Alumni and Friends,

As usual, a great deal has happened since our last Departmental newsletter. You may recall that last year we were welcoming new faculty and happily adjusting to several new personalities. This year many of our changes have been programmatic. I am sure that all of you will be pleased to learn that our traditional geology, geophysics, and earth science programs are alive and well. Our rather new hydrogeology and field hydrogeology programs are developing into strong programs with sizeable enrollments. In addition to the existing master's degree programs in geology and earth science, we expanded our graduate offerings to include a doctoral program in Geology with an emphasis in hydrogeology. We have enrolled three full-time students and three part-time students, and although we have yet to advertise, we have received several inquiries from other students interested in entering the program. Dr. Michael Barcelona, Director of the Institute for Water Sciences, and personnel in the Institute play an important role in all of our water-related graduate programs.

The equipment base of our Department continues to expand. The scanning electron microscope that was being installed last year is operational and is being upgraded. We have acquired several additional equipment items from Wayne State University. The 21-foot boat we leased from them last year has become the main stay of the "on the water" portion of our control work. In addition, they have provided us with several sediment samplers, a vibracorer, and a small boat and trailer. Frankly, the entrepreneurial activities of our faculty and graduate students have been bringing in equipment faster than the normal University procurement procedures. As you might suspect, much of this equipment requires repair and/or installation to be useable. Your generous contributions have helped us to make these items operational and thereby permit our faculty and students to have access to them. Having some money to add to that provided by the University stimulates the flow of resources.

The Departmental blimp that is featured in this issue of the Newsletter was purchased for wetlands and coastal research. Serendipity being what it is, the blimp has become an outstanding focal point for public relation. Detroit, Kalamazoo, Grand Rapids, and Holland newspapers have featured it and our Department in extensive articles. The Holland and Grand Rapids papers reported on its use to stimulate interest in science with secondary school students. The camera systems that are a part of this equipment are destined to become important elements in a wide range of research.

The doctoral program has generated considerable support from the University. We have acquired additional space on the third floor of Rood Hall that will be shared with the Institute for Water Sciences and the program is permitting us to hire a new half-time secretary and a new technician. We will also be able to purchase some new equipment items as result of this program. Yes, "the times are still a changing."

As you read the activities of our faculty, I am sure that you will be pleased with, and perhaps a bit proud of, the achievements of this very dynamic group of scholars-teachers.

Sincerely,

W. Thomas Straw

CORE RESEARCH LAB

The WMU Core Research Lab continues to be active in fostering research and activities associated with Michigan subsurface geology and oil and gas exploration. Donations to the Lab during the past year include a nearly complete set of Michigan oil and gas driller's logs from the Cadillac field office of the Geological Survey. Wiser Oil Company, Northern Michigan Exploration Company, Wolverine Oil and Gas, and Oryx Exploration and Production Company all donated cores to the Lab this past year.

Dave Balthazor, Jeff Cottingham, Brendan Curran, Tim Dellapenna, Carl Lundgren, and Karen Mater all finished their Master's degrees by completing their theses during the past year. Congratulations to each of them and continued success in their present careers.

Student Activities

Current students Steve Kimm and Marnie Twynham both had summer jobs with Mobil Oil Company in Oklahoma City this past year. Dave Balthazor was awarded the Best Student Paper Award at the Eastern Section of AAPG in London, Ontario, and is now with Mobil in Oklahoma City. Brendan Curran and Tim Dellapenna are now working for Marathon in Midland, Texas; Carl Lundgren is also in Midland with ARCO. Karen Mater is a new mom and still working for Angstrom Precision in Mt. Pleasant, Michigan. Jeff Cottingham is working for a geological consulting company in the San Francisco area.



Undergraduate geology major Martha Kupka is operating the ISI-SS40 Scanning Electron Microscope (SEM) donated to the Department of Geology by the British Petroleum-North America, Geosciences Research Group. This instrument, along with a Kevex/Fisons Energy Dispersive X-Ray Microanalyzer (EDXM) system (that we are currently repairing and modifying), constitutes the platform for our new Geosciences Electron Beam Microanalysis Laboratory. We are very grateful to the Western Michigan University Administration and Geology Department Alumni who contributed financially to the establishment of the Lab. We hope to provide these unique (to WMU) analytical capabilities for both on campus and off campus teaching and applied research projects. Photo by Robert Havira.

FACULTY NEWS

This past year has been a very busy one for **Dr. Estella Atekwana** trying to settle down in Kalamazoo, as well as familiarizing herself with her teaching duties. Estella's activities for the 1990-91 academic year have included attending and presenting a paper at the Minneapolis, Minnesota, Geological Survey Workshop entitled, "Geophysical Solutions to Geologic Problems of Continental Interiors" in March, 1991, and also one at the Geological Association of Canada/Mineralogical Association of Canada joint annual meeting in May, 1991, Toronto. She was also invited to present a seminar at the Geological Survey of Canada, Ottawa.

On the home front, son Kyle and husband Eliot are doing fine. They celebrated Kyle's first birthday in April, and it was well attended by the kids in the department. She extends a big THANK YOU to the kids for making this day special.

During the year **Dr. Michael Barcelona** has had four manuscripts published, has had two proposals funded, and has given nine presentations at various conferences and symposiums.

Mike is presently serving as a Science Committee Member for the Relative Risk Assessment Project-Michigan Department of Natural Resources, is on the Chemistry Editorial Advisory Board for Lewis Publishers, Inc., and is a Task Group Chairman for the Association of Ground-Water Scientists and Engineers Editorial Policy.

He is serving as graduate advisor to Ph.D. student Madhav Machavaram and Master's students Jiang Wu, John Ring, and Dan Tomczak.

Mike has also been elected as one of three directors for the Association of Ground-Water Scientists and Engineers.

This has been a difficult but very rewarding year for **Dr. David Barnes**. The most momentous occasion of the past year was the birth of Nicholas Quinn on California Earthquake day (Oct. 17) 1990. After a bit of a rough start with some health problems (and a birth date that necessitated cancelling travel plans to Tokyo to conclude Ocean Drilling Program work in the Japan Sea!) Nicholas has grown strong and contented. The poor fellow, however, appears to have inherited the strongest resemblance to his father of all of the children. His wife, Teresa, and children, Brendan and Lily, are all doing very well and are travelling their own interesting paths.

Research projects including work with Tertiary volcanics in the Japan Sea; sedimentology, reservoir properties, and clay mineral geochronology in the St. Peter Sandstone; two new grads with finished Master's theses and jobs; and a little work with Alaskan North Slope oil reservoirs (an old interest) have kept things interesting on the professional side. The University awarded tenure and promotion to Associate Professor this last year; very rewarding stuff.

As a result of this new-found freedom Dave has thrown in his lot with the group in our Department interested in Coastal Research, especially coastal erosion problems and implications along the eastern Lake Michigan shoreline. We see great potential in this area both in terms of technically stimulating work as well as significant contributions to the environmental and economic health of western Michigan and the Great Lakes region in general.

Dave continues efforts to build the Geosciences microbeam analytical facility based on the donation of an ISI-SS40 scanning electron microscope and Kevex EDX analyzer to the Department from the British Petroleum Company last year. The SEM is fully functional now, and we are in the midst of outfitting the EDX for low atomic number elemental analysis using a (MacIntosh) personal computer analytical software system.

Best wishes to the growing numbers of employed Geology Department alumni. We are very proud of your representation of the Department in the geology professional community and wish you (moderate?) increases in oil prices, good health and prosperity.

Dr. Ronald Chase continues to plug along on both the professional front and on the home front. His research in Rocky Mountain foreland uplifts (with Chris Schmidt) is nearing completion as he and Chris wrap up their editorship of, and manuscript contributions to, a Geological Society of America Special Paper devoted to Precambrian rock behaviors in foreland folds. This work has been supported by grants from the National Science Foundation for the past three years. Ron is about to write another NSF proposal to study isotope systematics in several plutons of western Montana as a means of characterizing the early Proterozoic continental margin. Ron also remains active in erosion studies along the Lake Michigan shoreline. He presented his results to the Whirlpool Chapter of the Society of Sigma Xi in January and also to a consortium of Great Lakes researchers in April. He is currently trying to get additional funding to continue his erosion research as part of a team of professors and students in the Department which will ultimately become (with some luck and funding) the "Great Lakes Research Institute" at WMU.

Ron also continues to be active in the classroom. His traditional courses in optical mineralogy and petrology continue to be taught to "a few good people" (to paraphrase the Marine recruiting theme). In addition to his campus duties, Ron teaches occasional off-campus, continuing education courses. He is also very active in the SEMS (Science Education in Michigan Schools) program by offering summer workshops for secondary school teachers. In the spring of 1991, the Department nominated Ron for a WMU Outstanding Teacher Award. Although the award was not given, he very much appreciated the nomination.

On the home front, Ron's largest pre-occupation is with children and colleges. Karl (Central Michigan University) and Andy (Northwestern University) are already there, majoring in recreation and journalism respectively. Scott will be off to college next fall (either Duke, Northwestern, or Washington University-St. Louis) to major in civil engineering (as close to geology as Ron could get any of his kids to major in). That will leave Jamie at home in high school where he is a high honors student at Hackett and the Kalamazoo Area Math and Science Center. He wants to be a lawyer but will hopefully change his mind soon. At any rate, Ron is broke, but proud of his kids. He is especially proud of his wife, Chris, who really did most of the parenting.

Dr. John Grace gave a paper at the Michigan Academy Meeting last spring and attended several meetings including the Clay Mineralogy conference. He also submitted a research proposal to the Michigan Well Driller's Association.

John taught a very large Rocks and Minerals class last winter with many new hydrogeology students. This fall's enrollment in mineralogy indicates an increased interest in the traditional geology program. We now have approximately 100 undergraduate majors distributed in all our programs.

This time last year **Dr. Duane Hampton** presented some papers at meetings, taught some courses and spent some time with grad students. Tim Adams and Linda Jones both finished their theses and graduated. Ross Wagner, Steve Shank and Hugh Heuvelhorst are all working on their theses, and some others are really close. Amy Lachance is also moving along. Sooner or later, the faculty types begin to live vicariously through their students and their achievements. Tim and Duane had a paper accepted (we think) 18 months after Tim gave it. Kathy Hewitt submitted an abstract of her thesis to present at a conference. Ross, Steve, Hugh and Duane have all co-authored papers; Ross, Dr. Howell of Chemistry, and Duane are co-inventors on a patent that was recently awarded to WMU.

Duane's research on gasoline spills is progressing. A second year of research funding from the EPA (\$93,000) will keep him going in the lab and in the field. He has a lot to do this year! Tom Barrett and he are looking at modifying gravel packs around oil recovery wells to increase recovery of free product. Their hope is that sands treated with liquid Teflon will be as effective as granulated Teflon in sucking oil into the recovery wells. They have a tentative field site (Union, Michigan) where they can try this out; but they sure wish they could find a closer site with sands instead of silts and clays. Blair Dudley and Duane are working on improving bailer tests for evaluating oil recovery well performance. John Ring is helping him get access for drilling at another field site.

In addition to working with graduate students, he is being helped by Marian Smith, adjunct faculty in Geology, Mike McCarville, Chair of Chemistry, and Jim Howell, Chemistry. Marian will be studying the effect of grain shape and mineralogy on oil recoverability. Mike is looking for a chemical that can be dissolved in free product and used as a tracer to follow its movement. Jim is working on the indicator strip for their Aquifer Dipstick. In a separate venture, John Kapenga of Computer Science has worked with him to produce a parallel processing version of his finite element model of coupled heat and water flow in variably saturated soils (which is yet far from completion).

He's also excited about the new Ph.D. program in hydrogeology. He hopes that our new Ph.D. students will enjoy our program. We have a lot of interesting research directions to follow and hope to help each of these scholars-in-training to jump quickly into the research front. Their addition makes WMU a more exciting place to be for all our Department.

Dr. William B. Harrison was on sabbatical leave during the 1990-1991 academic year. His sabbatical project was the characterization of Devonian oil and gas reservoirs in the Michigan basin. The project particularly centered around the evaluation of Dundee reservoirs. The South Buckeye field was most intensively investigated, using cores donated to the Core Lab by Wiser Oil Company. Maps and log analyses of the field were prepared using the TERRASCIENCES workstation in the lab. Basic information about the South Buckeye field will be published in the upcoming Michigan Basin Geological Society Oil and Gas Fields volume. Other activities during his sabbatical included a presentation at the North Central G.S.A. Annual meeting in Toledo of his research on volcanic ash beds in Silurian strata of the Michigan basin.

Bill's paper on the "Structure, Stratigraphy and Petroleum Geology of the Michigan Basin" was finally published in A.A.P.G. *Memoir 51, Interior Cratonic Basins*. The paper was co-authored by Paul Daniels and Paul Catacosinos.

Bill and his wife, Linda took a trip to Norway during the summer. The geology was spectacular, from the Ordovician sediments in the south to the fjords in the Caledonian rocks in the north.

During the past year **Dr. Alan Kehew** published several papers. These include an article on the KL landfill with Dick Passero ("pH and Redox Buffering Mechanism in a Glacial-Drift Aquifer Contaminated by Landfill Leachate") in *Ground Water*, an article on low-level radioactive waste disposal in *Geotimes*, and an article for a special edition of the *Journal of the North Dakota Archeological Association* ("Geomorphology of the Souris River Valley, Saskatchewan, North Dakota, and Manitoba"). Another paper (with Marge Brewer), in press, deals with groundwater quality in Barry County. He presented talks at the annual meeting of the National Water Well Association, the North Central Section of GSA, and the Geological Survey Division symposium on the geology of Michigan.

His current research focus is on agricultural impacts on groundwater. A group is trying to obtain funding to design and test a shallow irrigation system that may be able to remove and control nitrate contamination in groundwater in heavily irrigated areas such as the Schoolcraft aquifer. This project is based on the previous study of the Schoolcraft aquifer that Tom Straw and he conducted.

About a year ago, Alan was asked to coordinate a sub-group of IGCP (International Geologic Correlation Project) 253, which is entitled, "Termination of the Pleistocene." The subproject that he is involved in is the "History and Drainage of Large Ice-Dammed Lakes." This project will focus on glacial lakes associated with the melting Laurentide Ice Sheet and their drainage processes. One activity of this group will be a symposium at the Cincinnati GSA meeting next fall. A volume will follow in several years.

In the Department, he continues to advise undergraduate and graduate hydrogeology students. The new Ph.D. degree will have a major impact on our program. We already have about ten students that are either admitted or in the application process for this degree.

Another activity that he is currently involved in is a geology field trip to Iceland in early August, 1992. This came about after he talked to Larry Taylor of the geology department of Albion College at a conference and heard that he was planning to lead a trip to Iceland. Since Alan was stationed in Iceland for two years in the early 1970's in the Navy and is familiar with the geology of the country, they agreed that it would work out very well to bring a WMU group on the trip. The trip will be two weeks in length and the group will visit many of the most spectacular volcanic and glacial features. If any

alumni are interested in going on this trip, please give Alan a call as he is sure there will be room for a few more people.

Dr. William Sauck was co-author of a published paper presented at a poster session at the Fall Annual AGU meeting in San Francisco. He also gave a presentation (which was published in the proceedings volume) at the 1991 AAAS meeting in New Orleans in February. Bill presented two papers whose abstracts were published in the proceedings volume at the 4th Annual Symposium on the Application of Geophysics to Engineering and Environmental Problems in Knoxville, Tennessee.

Also, Bill was a guest panelist of "Environmental Update," a one hour show whose topic was "Protecting the Brazilian Rainforest: A Story of Cowboys and Consumers."

Bill has had two new research projects funded. One, entitled, "Geophysical Investigations of Sand-Wedge Thickness, S.E. Lake Michigan; Nearshore and Beach" involves working with graduate students Richie Laton and David Wardwell to test the utility of the GPR method in this high-energy and difficult environment. The other, "Long-Term Hydrogeological Research and Education Site," will be used to study surface and groundwaters on the University Farms/Asylum Lake property, with involvement and participation of faculty and students of Kalamazoo College and Kalamazoo Valley Community College.

He is also on the steering committee for the 5th Annual SAGEEP being held in the Chicago area in April, 1992, and is on the Editorial Board for *Ground Water*, reviewing manuscripts which deal with geophysical applications to groundwater studies.

Congratulations to Bill for successfully passing the half-century mark this fall!

Lloyd and Marilyn Schmaltz continue to enjoy retirement. Travel last year included trips to California, Florida, Georgia and New York along with several camping trips in Michigan. On a professional level Lloyd taught a workshop course on "Volcanoes" for middle school teachers last June. Mt. Pinatubo obliged by being very active during the week. Also, Lloyd recently completed a groundwater flow model for Sarett Nature Center of Benton Harbor for the Groundwater Education in Michigan Project.

Lloyd has entered the New York Marathon on November 3 and hopes to cross the finish line standing up. (Editor's Note: Lloyd did in fact complete the Marathon's 26.2 mile course in a little over five hours. Congratulations to Lloyd on this fine personal achievement!)

Dr. Chris Schmidt reports the following:

I have applied for a Fulbright fellowship to work in Argentina. I plan to spend the fall term of my sabbatical next year at Cornell University and the winter in Argentina. It's summer down there then and I hear that the fishing is great. I couldn't get a sabbatical approved if I said that I wanted some time off to go fishing in Argentina, so I've said that I want to look at the Sierras Pampeanas - a modern analogue of the Rockies - and study the structure of a couple of Ordovician batholiths. I hope to do a little field work when the fish aren't biting.

I'm still plugging away at more research projects than I can handle and still be sane. The best research-related activity for me this past year was a month in Montana with Bill Smith, Rose Bredael, and Robbie Zenero (faculty member, graduate student, and undergraduate student, respectively). We were all studying various aspects of the intrusion of the Boulder and Tobacco Root batholiths. It was a relief not to have to keep up with Ron Chase or Paul Genovese in the field any more. Bill, who is planning a geophysical study of the Tobacco Root batholith, was a great field companion. He didn't complain about my late starts or care if I just wanted to drive around looking at rocks from the cab of my pickup.

As part of my self-imposed therapy for workaholicism, I've taken up flying lessons through the aviation facility at Western. I think my young student flight instructors are somewhat bemused at teaching a geezer how to fly, but I'm enjoying it a lot. It's the sort of activity that takes so much concentration that you've got to forget about work for a while as a matter of survival. Of course, another advantage is you can see even more rocks from a cockpit than from the cab of a pickup. Getting up the slopes is no problem, although sampling is a bit tricky.

My family returned from a lengthy job-related stay in Las Vegas and Carolyn has been working for American Hydrogeology for more than a year now. She seems to be more busy than I am most of the time, but still manages to do more than her share of the stuff that needs doing to keep a family thriving. Morgan is a sophomore at Harvard. (Does anyone have any spare change--or say, several grand they could loan me?) He seems to be doing pretty well--likes science, hates math--not a surprising pattern. Charlie is a tall, skinny, sensitive third grader who is in an accelerated math program. Gene is a neat little active, bouncy three-year-old who just plain wears us out.

Carolyn and I wish all of you well and welcome visits from former students.

Dr. Marian M. Smith, an adjunct assistant professor in our Department, taught earth history and oceanography in the fall and winter semesters. She also submitted proposals and published in her two fields of interest, image analysis and science education

outreach. One manuscript entitled, "The Use of Fractal Measurement Techniques in Determining Liberation Efficiencies in Base Metal Ores" was published in a book *Micon 90: Advances in Video Technology for Microstructural Control*. A second manuscript co-authored with Duane Hampton and Stephen Shank entitled, "Further Laboratory Studies of Gravel Pack Design for Hydrocarbon Wells" was published in a proceedings volume *Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Restoration*. Duane Hampton gave results of their research both as an oral presentation and a poster session in November, 1991.

Marian is Michigan's representative for the Geological Society of America's Scientific Awareness through Geological Education (SAGE) program. She is making her science outreach to earth science teachers known by giving presentations and preparing material for distribution. One such project was the theme of her presentation to the North Central GSA meeting, in Toledo, Ohio, in April entitled, "A Paleogeography/rock Column Exercise for Earth Science Students: Example-Stratigraphy of the Michigan Basin."

She has organized a group of geology and science education students to act as Science Education Outreach (SEO) volunteers. Chime Elementary School, where Bill and Marian's son Austin attends, is a focal point of SEO activities where volunteers give science talks, act as judges in science fairs and participate in "science curiosity activities" at carnival fund raisers. This effort has not gone unnoticed by the media. Marian gave a presentation co-authored with Bill Smith entitled, "Sharing Science With Our Communities" at the National Earth Science Teachers Association's Symposium on "Earth Scientists and Science Educators: Common Ground," held in conjunction with the National Meeting of the Geological Society of America, San Diego, California, in October. GSA wrote a feature article on her efforts in the convention newsletter and the Kalamazoo Gazette did an article on her in November.

Marian's immediate plans include setting up a lab to do Fourier grain shape analysis and performing research on sediment movement in Lake Michigan's coastal region and setting up parameters for chemical spill contingency plans. Her work with Dr. Duane Hampton continues with the establishment of parameters that provide the most efficient gravel pack for aquifer remediation.

During the year **Dr. William Smith** taught courses in physical geology, introduction to geophysics, shallow exploration geophysics and field geophysics.

During July and August, he had the wonderful opportunity of spending time in Montana with Chris Schmidt. Together they studied the geology and tectonics of the Tobacco Root batholith and part of the

Boulder batholith. This was his first time in this part of the world and Chris treated him to some fine geology and fishing opportunities. They also formulated plans for future geophysical and tectonic studies in this part of the world.

We are building up the geophysics program here in terms of attracting new students, acquiring instrumentation and software, and implementing research.

The MIRA seismic software is up and running. This will allow us to model and analyze seismic data and produce synthetic seismographs. Immediate applications will be with the Michigan basin.

His research interests, which are diverse and consist of both new and continuing studies, give him the opportunity to interact with several of the factions in our Department. In Michigan, he is interested in studying the basement tectonics associated with rifting and their relationships to the overlying Phanerozoic sediments and also the application of high resolution seismic to determining glacial stratigraphy.

Elsewhere, Bill's interests are the application of geophysical methods to the role of pluton emplacement and tectonics in Montana and also geophysical study of fault zones in the Piedmont of North Carolina and Virginia.

The December 3, 1990, New Madrid earthquake prediction farce of Iben Browning gave Bill the excellent opportunity to encounter the various media organizations within Michigan, and he was interviewed by a variety of newspapers, and radio and television stations.

His wife Marian, son Austin, and he really enjoy the area. They love the beautiful seasons here and look forward to a stronger and more exciting year.

For much of the past year activities in two areas have dominated the life of **Dr. W. Thomas Straw**. He has had the opportunity to investigate several very interesting wetlands in Michigan and the southeastern U.S.; but, most of his time has been spent working with W. Richard Laton and David Wardwell, two of our graduate students, in studies of the Great Lakes shoreline. This work is very exciting, and appears to be a promising research area. For several years now Ron Chase has been studying the structure and stratigraphy of the eastern Lake Michigan coastal bluff. David Barnes is "testing the water" with plans to study some aspects of the nearshore zone. We are developing some interesting contacts in this area.

In August, Tom took two weeks annual leave to help teach a sort of elderhostel at the Indiana Geologic Field Station in southwestern Montana. He said returning to the field station in this role made him feel a bit like an old cowboy working at a dude ranch. He and his wife, Odessa, had a great time participating in this very differently paced activity.

SERVICE STAFF NEWS

Bob and Barbara Havira spent part of the summer travelling in the southwest. The high point of their trip was spending several days in Albuquerque visiting and touring with Betty Garrett. Betty provided good company, fine food and superb tours of local points of archeological and geological interest. The only disappointment was the lack of good "seeing" for astronomical purposes. The Havira's didn't know it was the rainy season (at least cloudy-at-night season).

Secretaries **Bev Britt and Joyce Parsons** have been attending WMU-sponsored conferences this fall enabling them to learn new skills to help the department run more smoothly. Among the conferences attended were: Fundamentals of Typesetting and Layout, Office Vision E-Mail Training, and Student Employment, What Works, What Doesn't?

Bev bought an antique cedar chest that needed refinishing. She's spent many hours working on it, and is now wondering if it wouldn't have been easier to buy a new one.

Last summer, Joyce and her family vacationed at Wisconsin Dells. Joyce and Ed enjoyed the scenery of the dells, whereas the kids enjoyed spending money at the attractions.



Our new departmental blimp with remote video and 35mm camera systems soars over Rood Hall. Acquired for use in wetlands and coastal studies, the range of applications is limited only by our imaginations. Photo by Robert Havira.

GEOLOGY COMMUNITY 1975

Western Michigan University



Back Row: Charles Gaskin, Don Chase, Russell Perigo

Row 2: Warren French, Larry MacCottel, Mark Pallas, Jack Stevens, Robert Hall, John Karamba, Bill Robinson, Gene Smith

Row 3: Steve Trapp, John McGuinness, Doug Thompson, Linda Harrison, John Grace

Row 4: Bud Rasmussen, Tom Starn, Bob Brady, Steve Milner, Dan Trickle, Steve Harris, Mike Doremba

Row 5: Bud Lyle, Schmalz, Joan Schmalz, Bill Harrison, Jim Smith, Bob Simpson, Robert Althoff, Betty Garrett, Gary Carter

Row 6: V. Kiser, Pat Green, Raymond Riser, Carol Gilbert, Laura Anderson

Row 7: Don Stewart, Valerie Naeve, Brian Lynn, Gayle Koppelman, Bill Hill

GEOLOGY COMMUNITY

Western Michigan University

1990-91



Last row : Dr. B. Chase, Dr. Hampton, Mark Hayas, Mike Koss, John Ring, Holly Wetfield, Andrew Reynolds, Lars Sverdrup,
 Vince Suenning, Jon Strollkamp, Kevin Clark, Greg Auch, Dave Derulfer, Matt Stuk, Martha Gregory, Andy Elich,
 Andy Kuhns, Mitch Cutaj, Dr. Kehev
 3rd row : Dr. B. Harrison, Ray Britt, Elliot Atakvans, Shari Barnes, John Constin, Kim Alexander, Linda Jones, Dave
 Wardwell, Robert Gillespie, Dr. B. Smith, Kate Kennedy, Dr. Atakvans, Jason Watson, Dr. Gräze
 2nd row : Steve Kim, Kori VandyBogurt, Joyce Parsons, Dr. Stray, Dana Lee, Shane Sosnowski, Jodie McNeil, Bob Versical,
 Dr. M. Smith, Scott Mills, Mike Laido
 Front row : Jiangwu, Bob Telliver, Steve Shank, Rose Bradael, Jim Finetti, Dr. Schmidt, Rickie Laton, Dale Jayne, Wei-
 Shyuan Peng, Dan Pingel, Mellissa May

ALUMNI/FRIENDS/FORMER FACULTY NOTES

Dan Bannon is working for American Copper & Nickel Co. in Reno, NV, and is involved in gold exploration.

Ted Bodner has returned to Michigan from the corn fields of Indiana and now works for ASTI in the Ann Arbor area.

James Bohlin is living in Lakeville, MA, and is teaching oceanography and earth science at Brockton High School.

Ed Bokros is the proud father of a nine pound baby girl born this past summer.

Larry Braybrooks is a project manager for Aegis Environmental, Inc. of Roseville, CA. Aegis performs site assessments involving hydrocarbon impact to soils and groundwater.

Tim Clarey presented a seminar in the department this past spring. We hope to have Tim visit often as a recruiter for Chevron.

Brian Coles is working for the Michigan DNR, Environmental Response Division, in Grand Rapids.

Charlie Cookman visited the department with his college age daughter! It's hard to believe how time flies.

Bob DeBoer recently graduated from Colorado School of Mines with a M.S. in Mining Engineering and began work at the Empire Iron Mine as a Mining Engineer. He spent summers working in the Carlin Trend, NV, and in South Africa. His master's thesis was entitled, "Evaluation of Blasting Techniques at the Henderson Mine" which is located in Colorado.

Michael Dunn spent time in the Persian Gulf earlier this year to support hydrographic survey operations by operating side scan sonar system/array.

Eric Fahle is working for Westinghouse Environmental & Geotechnical Services, Inc. in Framingham, MA.

Jim Ferritto is a project coordinator with Tank Management Services Group, Environmental Services Division, WW Engineering and Science, in Grand Rapids.

Kim Finkbeiner and **Bill Steinmann** were married this past summer at Kim's family home in the Lansing area. **Pat Barrese** was best man and about 15 WMU alumni were guests.

Two alumni have recently published research articles: **Betty Garrett** is co-author of an article in *Journal of Archeological Science* and **Dave Howell** is co-author of an article in *The American Mineralogist*.

Scott Green is working for EnecoTech in the Detroit area. He is now married and has a young daughter.

Terry Halbach has been a computer systems manager for Aidlin Automation in Bradenton, FL, for the past three years. She previously worked as a professional hydrogeologist for a consulting firm in southern Florida doing citrus grove development and field testing. She and her husband had their first child earlier this year.

Patrick Hudson has been on both the Kalamazoo County Solid Waste Management Planning Committee and the Calhoun Council Solid Waste Management Advisory Committee for the last three years.

Jim Jessmore is a project manager/project geologist for E G & G Idaho, Inc. at the Idaho National Engineering Lab. His current assignment is to perform underground storage tank surveys and management plans for state-side U.S. Marine Corps Bases.

Dan Kramer called the department this past summer, Dan works for Intel Corp. and is living in the Phoenix, AZ, area. He is married and has a son.

Michael Leahy is working for the Traverse Group, Inc., an environmental engineering and consulting firm. He has spent the last year-and-a-half working on multiple jobs related to underground tank proposal work, removal, cleanup, and closure. He has received good experience in site assessment proposals and the performing of the field work and reporting.

Wendy Manial is working for EnecoTech in Farmington Hills, MI, as a staff geologist. She works mostly at gas stations drilling wells and taking soil and water samples. She enjoys using her geology knowledge when drilling to describe soil cores.

Philip McLaren is teaching at Eastern Nazarene College. He has spent time this last year in the U.S. and British Virgin Islands surveying reef conditions and has spent time in Belize with ten teachers studying the barrier reef of Belize.

Bruce McLeod has been teaching chemistry in the Green Bay area for many years but still enjoys using his geology and glacial geology background.

James Meinke has become Director of STS (Science-Technology-Society) for Ohio at Ohio State University-Lima. This allows him to hold workshops, conferences, and teach teacher training (STS) courses at Ohio State. He also maintains a half time high school teaching position.

Greg Nelson is working for PMI Environmental Services in Mt. Pleasant, MI

Clark Niewendorp is working for the South Carolina Geological Survey in Columbia, SC.

Ronald Parker who lives in Bellevue, WA, is the owner of a geologic/geotechnical firm in Seattle that specializes in economic geology, geologic hazards, geotechnical evaluations and environmental assessments. He invites all geology friends to call him when in the area. He also reported that **Ray Perez** lives in Houston, TX, and **Steve Bracken** lives in Bozeman, MT.

Robert Reichenbach is a hydrogeologist/project manager with Groundwater Technology, Inc. in Farmington Hills, MI. His professional interests include new technology in subsurface remediation resulting from hydrocarbon contamination.

Mark Rhodes is currently working for Funny Business Agency in Grand Rapids, MI, as a comedy booking agent. His professional interests include survival. He was recently married and has three dogs and a tank full of fish.

Nora Rooney is now working for the geology department at the University of Delaware and enjoying her new position.

Christopher Saxon has been attending graduate school at Baylor University. His thesis is on the Structural Style of NW Arbuckle Mountains and movement of Washita Valley Fault, OK. He also admits that he still plays the guitar poorly.

Kim Schaner is an assistant geologist with an environmental consulting firm in southern California whose major scope of work involves site assessment and remediation. She is also attending the University of California-Irvine to obtain a certificate in site assessment and remediation.

Rick Schroeder is working for the Peace Corps in Bamako, Mali, West Africa.

John Shamo, the president of Hopper Exploration, Inc. since July 1988, has successfully discovered four different oil fields since incorporating in the Illinois basin with a 73% success ratio per drilled well.

Arlene Shub has also made a return trek from the hectic life in Chicago and is now working for Wilkins & Wheaton in Kalamazoo.

Kevin Sullivan is a senior geologist at Miller Oil Corporation in Traverse City, MI. The addition of a second son to his family is keeping him and his wife quite busy.

Doug Thompson has now joined his father's consulting practice (Everett & Douglas Thompson Associates, Inc.). They provide management consulting practices to engineering and architectural firms.

Dave Tolf visited the department this past summer. Dave is married, has a son, and is still with X Log Corporation in the Houston area.

Steve Wilmoth is working as an independent geologist in Houston, generating oil and gas drilling prospects. He and his wife have three children and frequently see **Bob Garrison**, **Gene Murray** and **Bob Zamboras** as all are located in Texas.

NEW ALUMNI

The following people received their degrees from WMU's Geology Department between December 1990 and August 1991. Congratulations!

Bachelor Degree Recipients

Earth Science - Jerre Coretti, David Develder, Christopher Drewek, Dennis Graveldinger, Geoffrey Hickok, Patricia Jones, Jennifer Klumpp, Jacob Koebe, and Patrick Pullen

Geology - James Finetti and Dana Lee

Hydrogeology - Jeffrey Constantine

Master Degree Recipients

Earth Science - Wayne Kukuk and Ted Powell

Geology - Timothy Adams, David Balthazor, Patrick Barrese, Leonard Belliveau, Steven Benton, Margene Brewer, Lynn Broede, Richard Christensen, Jr., Jeffrey Cottingham, Brendan Curran, Timothy Dellapenna, Eric Fahle, Douglas Hull, Carl Lundgren, Jr., Karen Mater, Michael Portnoy, Susan Rezek, and Robert Versical

1991 SPEAKERS PROGRAM

Mr. Ken Chaivre, Miller Energy Company. "Structural Offsets of Shallow and Deep Anticlines in the Michigan Basin."

Mr. Tim Clarey, Chevron Oil Company. AAPG Visiting Petroleum Geologist. "The South Fork Fault of Northwest Wyoming; Evidence of Thin Skinned Thrusting?"

Dr. Robert Ehrlich, University of South Carolina, 1990-91 Visiting Scholar. "Petrographic Image Analysis - the Robot Petrographer." "Bugs Underground - Microbes & Silicate Diagenesis."

Dr. Jim Harrell, University of Toledo. "The World's Oldest Surviving Geological Map: The 1150 B.C. Turin Papyrus from Egypt."

Dr. David C. Harris, Kentucky Geological Survey. "A Newly Discovered Precambrian (?) Basin Underlying the Cincinnati Arch."

Dr. Wendy J. Harrison, AAPG Distinguished Lecturer. "Paleohydrology of the Gulf of Mexico Basin."

Mr. Robert Hockman, AMOCO Corporation. "Monitoring and Remediation of Hydrocarbon Spills."

Ms. Pat Holton, Western Michigan University. "MIOSHA Right to Known Presentation."

Dr. Charles Kerans, University of Texas, AAPG Distinguished Lecturer. "Carbonate Reservoirs: Quantitative Characterization of Facies and Permeability Using Outcrop Analogs."

Mr. Philip Koro, Schlumberger Corporation. "Overview of Modern Logging Techniques."

Mr. Brian Roth, Wright State University. "Seismic Modeling & Interpretation of the Rose Run Formation, Ohio."

Dr. Mike Sklash, University of Windsor. "Environmental Isotope Hydrology: A Different Approach to Old Problems."

Ms. Carol Stuu, Western Michigan University. "How to Write a Resume and Tips on Interviewing."

Dr. Ben A. Van der Pluijm, University of Michigan. "Extension and Orogenic Roots; Evidence from the Ontario Greenville."

In addition to the above speakers, four faculty members and six graduate students gave presentations.

AWARDS & SCHOLARSHIPS

Undergraduate

AGI Minority Geoscience Scholar - **Danita Byrd**
Honors College Undergraduate Research and Creative Activities Award - **Kate Kennedy**
Kalamazoo Geological & Mineral Society Summer Field Trip Scholarship - **Kate Kennedy & Martha Kupka**
Mineralogical Society of America Award - **Martha Kupka**
Presidential Scholar in Geology - **Dawn Hoenes**
Senior Honor Award - **Andy Erich & Jim Finetti**

Graduate

AAPG Best Student Paper Award - **Dave Balthazor**
AAPG Grant-in-Aid - **Steven Kimm**
Graduate College Student Research Grant - **Vincent Buening, Mitchell Gutaj & David Wardwell**
GSA Student Research Grant Award - **Matt Stuk**
University Research Fellowship - **Richard Laton**
W. David Kuenzi Award - **Steven Kimm, Dan Pingle & Marnie Twynham**

GEOLOGY CLUB

This year the Geology Club will be taking a few field trips, designing a T-shirt, and hosting a guest lecturer and possibly touring a local environmental firm. They are planning a field trip to the gypsum mines in Grand Rapids, a spelunking trip in March to the Wyndat Cave in Indiana or the Mammoth Caves in Tennessee, a trip to the Kalamazoo Nature Center for a hiking tour, and then in the summer, between spring and summer sessions, a one-week trip to the Smokeys and surrounding Mountains.

The T-Shirt design was already voted on and is in the preparation stages for printing. The design this year is "Late Night at Rood Hall - Top Ten Reasons to be a Geology Student." The T-shirts will be ready for hand out by Thanksgiving. They will then begin working on another fund raiser. Lastly, the Geology Club is collecting a two dollar fee for dues to help pay for projects.

Officers for this year's club include: President Mike Zack, Vice President Shane Sosnowski, Secretary Lesta Johnson, and Treasurer Nancy Horvath.

GEOLOGY DEVELOPMENT AND SCHOLARSHIP DONATIONS

Your generous contributions to the Department support a wide array of activities and we appreciate your help. We try to thank each donor, but as with all bureaucracies we do miss someone occasionally. If we missed you, please know that we rely on your support and will continue to make every effort to acknowledge your gifts. Please accept our sincere thanks for your generous support.

Alumni - Mr. Michael Adamczyk, Mr. James Bartel, Mr. William Brownlee, Jr., Mr. Brian Coles, Mr. Robert Crabb, Mrs. Maryann Crawford, Mr. Timothy Crawford, Mr. Douglas Daniels, Mr. Stanley Deright, Mr. Richard Dickerson, Mr. Ronald Erickson, Mr. Kurt Ewoldt, Mr. William French, Ms. Terri Halbach, Ms. Kathleen Hewitt, Ms. Paulette Hughes, Mr. Thomas Hylland, Mr. Thomas Kamin, Mr. Randall Kerhin, Mr. Thomas Laux, Mrs. Debra Lefler, Dr. Philip McLaren, Mr. Bruce Mcleod, Mr. James Meinke, Mrs. Suzanne Merrill, Mr. James Nidy, Mr. Ronald Parker, Mr. Michael Pendergrass, Mr. James Peterson, Mrs. Sally Putney, Mr. Kevin Serrin, Mr. Charles Soule, Mr. Robert Steckley, Dr. Roger Steininger, Ms. Katharine Whitley

Friends - Mr. Daryl Baron, Mrs. Mary Baron, Mr. Lyndon Bell, Ms. Barbara Benjamin, Mrs. Cheryl Binda, Mr. Robert Binda, Mrs. Ella Brownlee, Dr. Wen-Chao Chen, Dr. Maynard Conrad, Mrs. Beverly Crabb, Mr. Henri De Compeigne, Mr. John Edwards, Mrs. Doris Griffith, Mrs. Kay Hammond, Mr. Robert Hammond, Mr. William Hewitt, Mr. Douglas Hillman, Mrs. Sally Hillman, Mr. Stephen Kuhn, Mr. James Lefler, Dr. James D. Lutz, Mr. Don Mollhagen, Mr. David Moskowitz, Dr. Marshall Pattullo, Mr. Timothy Putney, Dr. Lloyd Schmaltz, Mr. Peter Wege, Mr. Peter Wood

Company Donors - Amoco Foundation, Inc., British Petroleum Research, ICF Resource, Inc., Mobil Foundation, Inc., State Farm Insurance Co., Union Pacific Corporation, United Environmental Technology, Inc.

Matching Gifts - Amoco Foundation, Inc., Conoco, Inc., Exxon Education Foundation, Kellogg Company, Oryx Energy Company, Unocal Foundation

Grants - I.C.F. Resource, Inc., United Environmental Technology, Inc.

DONATIONS

We hope that you will consider making a contribution to the Geology Community. You may do this by sending a check to the WMU Foundation, made payable to the Department of Geology.

You may specify that your donation go to the Department of Geology Development Fund or the W. David Kuenzi Scholarship Fund. The Development Fund is used to support a wide array of activities, including undergraduate scholarships, student travel, supplemental support for equipment purchases, student activities and a variety of projects for improvement of teaching and research in the Department. The Kuenzi Fund is used to support graduate student research with emphasis on students studying sedimentology.

If you wish to make a donation and have it be used for a specific purpose, please check the item(s) you want to contribute to and list the amount. Make checks payable to the Department of Geology and send to:

WMU Foundation
Western Michigan University
Kalamazoo, MI 49008

Name _____

Address _____

City/State/Zip _____

- | | |
|--|---|
| <input type="checkbox"/> W. David Kuenzi Scholarship Fund (support of graduate student research) | |
| <input type="checkbox"/> Geology Development Fund (unrestricted to support travel, field trips, and visiting speakers) | |
| <input type="checkbox"/> Senior Honor Awards (\$50) | <input type="checkbox"/> Graduate Student Research Fund |
| <input type="checkbox"/> Undergraduate Student Work Program | <input type="checkbox"/> Field Trips |
| <input type="checkbox"/> Undergraduate Scholarships (\$250 each) | <input type="checkbox"/> Geology Museum Specimens |
| <input type="checkbox"/> Earth Science | |
| <input type="checkbox"/> Geology | |
| <input type="checkbox"/> Geophysics | |

MAILING LIST

We are anxious to keep your current address on our mailing list and, therefore, ask for your cooperation in advising us if you move. Also, if you know of other alumni who do not receive this newsletter, please send their names and addresses; we would like to add them to our file.

Name _____

Major _____ Degree _____ Year _____

Address & Phone _____

Current Employment _____

Professional Interests _____

News Items _____

Return to: Dr. W. Thomas Straw, Chair
Department of Geology
Western Michigan University
Kalamazoo, MI 49008
(616) 387-5485

WESTERN MICHIGAN UNIVERSITY

College of Arts and Sciences
Department of Geology
Kalamazoo, Michigan 49008-5150

Nonprofit Organization
U.S. Postage
PAID
Kalamazoo, Michigan
Permit No. 478