

KENTUCKY GEOLOGIST

SPRING 1995

Editor: T. N. Sparks

Comments from your President: Kenneth W. Kuehn

In service as your GSK President for 1995, I am working to build upon the efforts of the 1994 Executive Committee. I thank all the past officers for their good work. I believe that 1994 President Greg Cornett has pointed the Society toward a vital and thriving future; a course that I intend to hold. A new Executive Committee has been serving you since January. Will you please note their names and addresses as listed in this newsletter?

1995 Events

At this time, our major activities for 1995 have been planned and scheduled. Your newsletter contains a separate announcement for the **Second Annual Spring Picnic** to be held on **Saturday, June 17** at Fort Boonesboro State Park near Richmond. Last year's picnic was fun for all, so why not complete the registration form and return it right away? I'm looking forward to seeing you there! Our **Fall Field Conference** is scheduled for **September 29-30**. We will convene in Hazard for a trip emphasizing some coals and clastics of the Breathitt Formation. Please mark these dates on your calendar now and look for further details in the next newsletter!

Scholarships Available

This year, for the first time, a few scholarships will be available to deserving geology students who wish to attend the Fall Field Conference. Greg Cornett presented this idea to the membership last year and it was heartily embraced. I now have the Scholarship Committee working to decide the particulars and we'll present them to you in the next newsletter.

Annual Dues

It's dues time again! The GSK needs your continued support to maintain its activities. Please return the enclosed dues form with your payment right away. As an additional incentive, please note that there is no charge to attend the Spring Picnic for GSK members who have paid their 1995 dues!

The Times They Are A-changin'!

Thus far, 1995 has been full of speculation concerning the Republican 'Contract With America' and its toxic attachment containing suggested 'offsets' (cutbacks). Our profession was singled out to receive the deepest cuts. As the April 1995 GSA Today (p.72) points out, ". . . with the exception of the National Aeronautics and Space Administration (NASA), virtually every agency in the federal government that deals with the earth sciences is

included on the 'possible offsets' list." Examples of the 71 listed actions include: abolishing the USGS, abolishing the Bureau of Mines, reducing funding for energy technology development, and restructuring the Bureau of Reclamation. A colleague at the USGS told me recently that the idea of total abolishment seems to have been beaten down, but it is anticipated that 200-400 employees will be issued 'pink slips' on August 1st. A colleague at the USDOE Pittsburgh Energy and Technology Center (PETC) said that either it or a similar facility at Morgantown, WV (METC) will be closed within a year. Clearly, this is a critical time for everyone in the earth sciences. It is a time to be effective and vocal in our reactions. It is a time to be protective as well as proactive.

E Pluribus Unum?

Beginning with the 'grandfather' year of 1993, more than 2,000 geologists have become registered professionals in Kentucky. Most live out-of-state and few are represented by either the GSK or the AIPG. Your Executive Council has been discussing the desirability of expanding the present role of GSK into a single 'umbrella' organization for all. We can see certain advantages to unification, especially in view of the current political climate, but this would necessarily entail some changes in the way we presently function as a society. As examples, our newsletter would need to be more frequent and maintain a regular publication schedule. We would need to expand our activities, perhaps develop a component of continuing education, and offer timely information on events, pro-fessional meetings, regulations, procedures, and other topics. We also would need to develop several classes or levels of membership and update our constitution and bylaws. In all, it would be a very big task.

Your Ideas Sought

I spoke to our State Geologist, Dr. Don Haney, on this issue and decided to develop a proposal from GSK for presentation to him and the Board of Registration. But first, I want to hear from you. What are your opinions? What advantages and disadvantages do you foresee in such an organization? Do you have specific suggestions for its function or activities? I want to have all your input before I present a draft document to your Executive Committee. The GSK has been serving Kentucky's geologists since 1940. We have both a heritage and a legacy of which we can be proud. Right now, there is a unique opportunity for us to become a strong and clear voice for all geologists who work in the state. And there is need. Please contact me or another member of the Executive Committee with your suggestions.

KWK

Special Feature: Letter from Dr. Paul Edwin Potter

April 1994

A LATE LIFE JOB CHANGE -- NORTH TO SOUTH AMERICA

When you are in your late fifties or early sixties, it is time to think of a new job, because realistically most of us will have a good many more productive years ahead of us.

For some time I had thought that it would be interesting and challenging to live in southern South America, which I first visited in 1974. Ideally, I thought (dreamed is, of course, a far better verb) of going there in a very special way -- taking \$50,000 to a small town, learning the language, and writing a successful novel before the \$50,000 was consumed. Can you imagine the satisfaction of being a late life Hemingway? And of living as he did in a town like Talara on the coast of Peru and knocking out another "Old Man and the Sea"? I have in fact made the change, but being a cautious, prudent midwesterner, made a much more conservative move. I simply kept the same job as Geology Professor with nearly identical duties, but fulfill them at a different university here in Rio Claro in southern Brazil.

In August, 1992 I took early retirement from the University of Cincinnati shortly before I was 68 and started looking for a job in southern South America. My first preference was Chile, but instead, I had a choice of two jobs in Brazil. Below I report on the town of Rio Claro and its state of Sao Paulo, the University and finally, comment on what it is like to make such a late life change.

Brazilian Setting

Let's start with Sao Paulo State, Brazil's most populous with 27,000,000 inhabitants. In area, Sao Paulo is only middling size by Brazilian standards, but extends across 5° of latitude North to South and some 8° of longitude East to West, about 300 X 500 miles. Let's say from Louisville to Kalamazoo and from far mountainous eastern Kentucky to beyond Cape Girardeau in Missouri. Its eastern border is the South Atlantic Ocean, where a mountainous Precambrian province, the Serra do Mar, borders the ocean. This part of Sao Paulo State is perhaps best visualized by a sea lapping against the Smokies at Gatlinburg or at the base of the Blue Ridge. Along the coast the Precambrian is veneered by a thin Pleistocene and Holocene regressive sequence that includes beautiful white sandy beaches, many still virgin. These spectacular, forest-covered mountains were a major barrier to pioneers moving inland. On the west Sao Paulo State is bordered by the Parana' River, about the size of the Mississippi, on whose western side is the state of Mato Grosso do Sul.

Between these limits much of the state is underlain by the Parana' Basin, one of the world's larger intracratonic basins covering an area of some 540,000 square miles -- about 12 times larger than the state of Kentucky. The basin extends into bordering Paraguay and Argentina, but has about 100 deep wells. Maximum thickness is about 14 to 15,000 feet, which has rarely been reached by the drill. Its fill includes Paleozoic and Mesozoic sedimentary rocks plus world famous Gondwanan glacial deposits.

Sao Paulo State has rich soil and plentiful rainfall and water power, but its greatest asset, like Israel's, is its people -- a hard working mixture of Italians, Portuguese and Germans, plus other smaller but important components of Japanese, Chinese, Arabs, Lebanese, and perhaps as many as 8 to 9,000 Americans. Sao Paulo State boasts the highest standard of living in all Brazil and its best highway network.

The backbone of this highway network is a large system of "interstates" that run west and north from the coast connecting Santos, South America's largest port, to the metropolitan area of Sao Paulo with its 17,000,000 people and hence on to the rest of the state. Much of the state's industry is concentrated along these interstates, which may have been modeled after the first four lane highway built in Michigan to connect Detroit to Willow Run during the early

years of World War II. This industrial corridor is the only one like it in South America and goes far to make Brazil the continent's industrial leader.

Every Kentuckian would feel right at home driving this corridor seeing plants of IBM, Goodyear, Caterpillar, 3M, Owens Corning, Borden, Xerox and other familiar names as well as being impressed with many large Brazilian factories -- but with one big difference. Off behind these plants in the distance are vast fields of sugar cane, some vineyards, and many cities such as Americana, Campinas, Limeria and others, each typically with a core of high rise buildings surrounded by low, red, tiled-roof buildings.

Driving across the Parana' Basin, one easily sees three to ten miles to distant, even horizons. Local relief in the basin varies from about 200 to 300 feet, but with a very open drainage network. To express this differently, here is a landscape that has wide vistas to far distant, even horizons with nearly everything in between in wide slopes -- quite different from intensely dissected eastern Kentucky or its outer Blue Grass. Perhaps central or eastern Montana - - but with a different vegetative cover -- is a good match.

These vistas are interrupted by several escarpments. The most prominent being the Serra Geral formed by basalts extruded in the early Cretaceous, when South American separated from Africa. The Serra Geral escarpment rises about 200 to 400 feet above the surrounding landscape and reminds one of the Muldraugh Escarpment as seen from Tollesboro in Lewis County, or from Bardstown in Nelson County with one big difference, however -- the perimeter of the Serra Geral is some 3,000 miles! Rio Claro lies near the foot of this vast escarpment. Rio Claro is located on a shallow Late Tertiary basin below which are sandstones and shales of Permian age. Several hills underlain by diabasic sills are nearby.

Rio Claro, first settled in 1845, is about 100 miles north of the city of Sao Paulo, has about 110,000 inhabitants and outwardly is as far different from a Kentucky town as you might imagine. Rio Claro has narrow, one-way streets mostly built of granite paving blocks covered by a veneer of asphalt, a scattering of horse carts, some twelve, ten-floor high rise apartment buildings, each surrounded by low stucco red-roofed houses, one theater and a bus and railway station. Almost no one has a yard to cut because each house directly fronts the sidewalk and is separated from it by a high iron grill or wall. Thus, Rio Claro has a compactness that gives it an area of a typical town of some 20 to 30 thousand. Other differences are the absence of the shopping center, a K-Mart or a McDonald's or a Pizza Hut (all of which are present in Sao Paulo and nearby Campinas). Consequently, Rio Claro still has many small specialized shops -- shops for household cleaning materials, dry goods, kitchen wares, boutiques, tiny laundries, small ice cream parlors, and more.

The People

Two other significant differences need mention. The first is young people -- here the contrast between a walk in a Kentucky town and Rio Claro is striking, because young people form such a large part of the population in Brazil as is true of most of South America. The other is noise -- because a Latin town is full of life and activity. The noise ranges from roosters in the early morning to horses' hooves, to loud mufflers and the changing of heavy gears in trucks and busses, to train whistles, to church bells that sound the hours all night long, to the 6:30 AM siren of the brewery. Plus, noisy firecrackers and powerful rockets, when a favorite soccer team is victorious. In short, making the most of life and letting all the world know it.

I was also surprised to find in Rio Claro an amateur symphony whose conductor is paid by the city and that the city supports a music school. I wonder if any Kentucky city does this? Still, another surprise was to discover that Rio Claro has a professional basketball team -- one that is nationally competitive -- and that its coach and one or two players are Americans.

The Climate

And finally, the climate. Tropical to subtropical, but because of an elevation of 1800 feet, far less tropical than

one would suspect from a latitude of some 20° S. In February temperatures can briefly go over 100°F and in July and August they fall to the fifties and below. Neither air conditioning or central heating are common so during these extremes one just suffers -- and in winter sniffles through it.

And what of similarities? In spite of all the differences described above, I am sure that most Kentuckians would feel right at home in Rio Claro with its friendly people, a central praca or square around which young males like to circle looking for girls on Friday and Saturday nights, plus service clubs such as the Rotary and Lions and more. Like many a Kentucky town, Rio Claro as an industrial park and a bus station -- but also a working train passenger station. It has an air field that was originally built in the 1940's as an emergency landing strip for DC-3's. And, like a number of Kentucky towns, Maysville comes to mind, Rio Claro has a nice museum specializing in local nineteenth century history -- for 67 years in the 19th Century Brazil had two emperors, Dom Pedro I and Dom Pedro II, and Rio Claro was the seat of a duke, whose house is now the museum.

Perhaps the best comparison with a Kentucky town is Danville. A very solid, well organized and well off community supported by a good combination of agriculture and industry and connected to the rest of the state by good roads and rail. So in reality Danville, much of Kentucky and Rio Claro are not so different after all. Thus, for many GSK members a move to Rio Claro should be easy and pleasant.

Editor's note: Should you care to write Professor Potter, his current address is:

Geociencias/UNESP
Caixa 178
Rio Claro, 13,506-900
Sao Paulo, Brazil

FAX 011-55-195-242445

GSK 1994 Annual Field Conference

Geomorphology and Environmental Problems of the Central Kentucky Karst

The 1994 Annual Field Conference to the Central Kentucky Karst of Mammoth Cave and Bowling Green was well attended and enjoyed by the more than 40 people registered. The weather cooperated with two clear and mild days in mid October. In spite of some existing electrical problems in the Mammoth Cave portion of the field trip which necessitated a last-minute change to the field guide, the overall conference was a success. The society would like to thank Ken Kuehn, Christopher Groves, Nicholas Crawford and Joe Meiman for all their hard work and leadership during the fall conference. In addition, many thanks are due the student volunteers of Western Kentucky University who kept us well fed during the trip.

The GSK has donated \$150 to the 'Friends of the Lost River, Inc.', Bowling Green, which is on the National Register of Historic Places. The site is also symbolic of the Central Kentucky Karst, the topic of the 1994 Fall Field Conference. In addition, all participants enjoyed their Saturday lunch within the cave's massive entrance.

Ken Kuehn and co-authors put together a well-written and excellently illustrated field guidebook for the field trip. The Kentucky Geological Survey has proposed to make plans to publish this guidebook as in the past. For the time being, a limited number of extra guidebooks will be for sale by the Society. The price of the guidebook is \$10.00 (Kentucky residents add 6 % sales tax) plus \$3.25 shipping. Contact Richard Smath at KGS (606) 257-5500 to order a copy while they last.

1995 GSK Officers

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AAPG House of Delegates Report

Jim Drahovzal, GSK's representative to the AAPG House of Delegates, files this report:

This year's AAPG annual meeting was held in Houston, March 5-8. A total of 6811 attended the meeting, up about 240 over last year's meeting in Houston. The exhibits were the largest in AAPG history with 338 exhibitors. The Prospect Gallery and the Deal Room featured many domestic plays by both the majors and the smaller independents. The International Pavillion included plays from 38 countries.

Technically, the most exciting sessions were those were those dealing with the revisions of salt tectonic theory and its implications for current and future exploration in the Gulf of Mexico. Much of the sequence stratigraphy sessions were of interest. Some of the structural and stratigraphic papers dealing with rift basins were of significance to exploration efforts in the Rome Trough and the Rough Creek Graben of Kentucky.

This was a very quiet session in the House of Delegates in terms of resolutions. As our organization continues to become more international in scope, there will be some hot issues in next year's meeting, but many of these will come before the membership as a whole during the year. For example, there are discussions of a name change to reflect the increasing international aspect of the organization. Currently, however, only about 20 percent of the membership fall into the international category.

Tom Ahlbrandt of the USGS, Denver, was elected Chairman of the House of Delegates; Steve Shaw of Meridian Oil, Midland, Vice Chairman; and Irion Bordelon, of Mobil, New Orleans, Recording Secretary.

Please forward any questions or concerns about AAPG to Jim Drahovzal at the Kentucky Geological Survey, (606) 257-5500.

Membership Report

GSK Secretary Richard Smath reports that there are currently a total 322 members (active and inactive), with 11 honorary members. The following people have been accepted into the society in 1994:

Todd Alfrey, PG President/Geologist Geo-Logic Environmental	Robert Andrews Geologist Kentucky Geol. Survey
David R. Dockstader Associate Professor Jefferson Comm. Coll.	Jeffery L. Fant Project Geologist Omega Environmental Serv.
Steven A. Hester Project Geologist Rhodes and Assoc.	Dawna M. Johnson Environmental Specialist Ashland Petroleum Co.
Steven Juscuk Graduate Student Univ. of Kentucky	Angela Moore Graduate Student Univ. of Kentucky
Kirk Neidhardt Principal self employed	Marc Silverman Geologist Peabody Development Co.
Thomas Sparks Geologist Kentucky Geol. Survey Consulting	Kevin Strunk Geologist & Real Estate Broker/Appraiser Wabash Resources &
Richard L. Walton Senior Geologist Rhodes & Assoc.	John Whitley IV Hydrogeologist Groundwater Technology, Inc.

Financial Report

As of Feb. 28, 1995, the GSK has a reported balance of \$6,900 in an interest-bearing checking account.

Announcements of Professional Meetings

Kentucky Geological Survey

May 19, 1995, 35th Annual Meeting, Room 102, Mining and Minerals Resources Bldg., University of Kentucky, Lexington, KY, (606) 257-5500.

Kentucky Oil & Gas Association

June 13-15, 1995, 59th Annual Meeting, Draw Bridge Inn, Ft. Mitchell, KY.

American Association of Petroleum Geologists Eastern Section

October 14-17, 1995, Schenectady, NY, Joint Annual Meeting AAPG Eastern Section and New York State Geological Association.

Geological Society of America

November 6-9, 1995, Annual Meeting, New Orleans, LA.

Geological Society of Kentucky

228 Mining and Mineral Resources Building
University of Kentucky
Lexington, KY 40506-0107

Address correction requested