



Everglades Geological Society

BULLETIN

Volume 5, Number 3

November 1998

Meeting This Month: November 17, 1998

6:00 P.M. at the Morgan House Restaurant & Trading Post
(social hour starts at 5:00)

Speaker: Dr. Tom Missimer

Topic: Homogenized Carbonates and Siliciclastics in the
Tertiary of Southwest Florida.

(abstract on page 3)

INSIDE THIS ISSUE

2

About the EGS

3

This Month's Speaker

Everglades Geological Society
P.O. Box 61684
Fort Myers, FL 33906

The Everglades Geological Society is an organization which seeks to promote interest in and understanding of Geology and the related Earth Sciences, and to provide a common organization for those individuals interested in geology and the related earth sciences.

The Bulletin is a monthly (September-June) publication of the Everglades Geological Society, Inc.

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I WAS IN THE RIGHT PLACE... BUT I T
MUST HAVE BEEN THE WRONG TIME
DEPARTMENT:

EGS MEETING THIS MONTH AT THE:

Dave Kelly

Joe Ball



2207 First St. Fort Myers, Florida 33901 • 337-3377

The never ending search for the perfect meeting site takes us this month to the

Homogenized Carbonates and Siliciclastics in the Tertiary of Southwest Florida

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ABSTRACT

Carbonates and siliciclastics rarely mix in many, perhaps most, ancient deposits (Mount, 1984). A notable exception is the homogenization of these two sediment families in the ramp deposits of the Arcadia Formation. All 13 of the subfacies in the 150 to 200 m recovered in each of the three core borings are various mixtures of carbonates, siliciclastics and phosphorites. Only 7-15% of the interval consists of solely carbonates or siliciclastics.

What circumstances produced the homogenized carbonate and siliciclastic deposits within the Arcadia Formation? Carbonate sediment production continued, because the supply of siliciclastic sediments to the ramp was relatively small, transport of siliciclastic sediment was primarily by marine processes rather than by streams, thoroughly mixing in all environments by storms and bioturbation with no interruption of carbonate production. Recent examples of similar homogenization are the shelf and shoreline sands of the U.S. South Atlantic and the tidal deposits of Bay Mont St. Michel in France. Slow deposition is a common denominator of these deposits (long transport of sands).

BIOGRAPHY

Dr. Missimer is President and Principal Hydrogeologist of Missimer International, Inc. He received a B.A. degree from Franklin and Marshall College, a M.S. degree from Florida State University, and a Doctor of Philosophy degree in Marine Geology and Geophysics from the University of Miami.

Tom has over 25 years of experience in geology and hydrogeology. He is the author of numerous technical papers, consultant reports, and he is the author of two books. He has been project manager and senior technical advisor for numerous water supply development projects, groundwater contamination assessments and groundwater remediation projects. Dr. Missimer has served as Chairman of the State of Florida Board of Professional Geologists and he currently serves as Chairman of the Technical Advisory Committee for the Governor's Commission for a Sustainable South Florida. Over the past year Tom has increased his international credentials with marketing and projects in Cyprus, the Caymans, Tonga, and as always, Costa Rica. While in town, Tom spends much of his spare time in his laboratory right down the road from the more famous Thomas' lab.

National Fossil Council? Bureau of Fossil Management? Fossils and Public Lands Update (10-6-98)

An obscure provision in report language accompanying [S. 2237, the Interior and Related Agencies appropriations bill](#) calls on the Secretary of the Interior to issue a report on "assessing the need for a unified Federal policy on the collection, storage, and preservation of...fossils." The language was inserted by Interior Appropriations Subcommittee Chairman Slade Gorton (R-WA), at the request of Senators Tom Daschle (D-SD) and Tim Johnson (D-SD). In the last Congress, Johnson (then in the House) introduced [H.R. 2943](#), which did not make it out of committee. His staff indicate that the purpose of the current provision is to push the Department of the Interior to address the need for a national policy for fossils on public lands. The Senate Appropriations Committee has approved S. 2237, but the full Senate has not acted on it yet. Such action is already past due as the bill covers Fiscal Year 1999.

The provision: "Under current public laws, including the Federal Land Management Policy Act of 1976, Federal land management agencies are given the authority and the mandate to protect public resources, including those of scientific value. These resources include fossilized paleontological specimens, which provide valuable clues to the Earth's history. The Committee is aware that no unified Federal policy exists regarding the treatment of these fossils by the affected Federal agencies, and is concerned that the lack of appropriate standards may lead to the deterioration or loss of these fossils and the permanent loss of a valuable scientific resource.

"Therefore, the Secretary of the Interior, in consultation with appropriate scientific, educational and commercial entities, should develop a report assessing the need for a unified Federal policy on the collection, storage, and preservation of these fossils. Agencies to be consulted in the development of this policy should include, but not be limited to, the Bureau of Land Management, the National Park Service, the Fish and Wildlife Service, the Bureau of Indian Affairs, the Forest Service, and the Smithsonian Institution. The Committee encourages the Secretary

Wildlife Service, the Bureau of Reclamation, and the Corps of Engineers. All other federal and Indian lands are exempt. Two types of collecting are identified. Reconnaissance collecting in which less than two square meters of surface are disturbed, and quarrying which includes all other forms of collecting. A permit is required for all quarrying, while permits for reconnaissance collecting are only required under special conditions. The issue of fossil collecting on public lands continues to be a contentious subject among paleontologists, federal land managers, professional societies, amateur fossil collectors, commercial fossil interests, and academia.

Under current USFS and BLM regulations, recreational and scientific collection of invertebrate fossils and petrified wood does not require a permit, but collection of vertebrate fossils is restricted. The proposed legislation would expand the right of amateur collectors to collect fossils on certain public lands and for the first time extend that right to commercial collectors. Opponents of the legislation contend that commercial collectors are only interested in the most valuable specimens, and in their removal, would damage less economically valuable but scientifically important fossils. Others claim that unskilled collectors could damage valuable fossils or remove them thereby making fossils unavailable for scientific investigation. Amateur and commercial collectors point out that many valuable fossil assemblages have been discovered by members of their communities. In addition to these typical arguments, the meeting attendees debated four specific issues. 1) That the term unique may be unsuitable, for it is too restrictive, and should be replaced by the term "important;" 2) whether or not civil penalties for violators were sufficient, or should criminal penalties be imposed; 3) whether the chair of the proposed National Fossil Council should reside within the U.S. Geological Survey or with the National Museum of Natural History; and 4) whether the legislation should be divided into two sections - one to govern the collection of invertebrate fossils and the second to control the removal of vertebrate fossils? All attendees

PRESIDENT'S MESSAGE

Paul Attwood

Dead Cells, Gray Stuff and Jurassic Highlights

I couldn't believe it? A dead battery, limited cash in wallet, 8:30 PM on a Saturday night, someone's Budweiser long necks containing half-smoked cigarettes, Tampa Int'l Airport parking garage, and no one around. Well, needless to say I paid this guy way too much money to get my vehicle started and sped away from the cold, dimly-lit parking structure. Four days earlier, I had boarded a heavily discounted Southwest Airlines flight to Corpus Christi, Texas, to attend the G.C.A.G.S. Convention. The talks covered a wide range of topics, and in the dimly-lit conference hall, I managed to jot down a few key points regarding some of the talks I attended:

1. Water molecules in smectite (clay) are held together by Van Der Waals forces and that the transformation from smectite to illite takes place independent of depth, temperature, and age.
2. Springs in urban areas of Austin, TX, are showing elevated levels of nitrogen due to landscape fertilizers and wastewater effluent application.
3. Rate of sea level rise during deposition of lower, middle, and upper Jurassic (Smackover Fm) rocks was 4 m. to 28 m. per million years.
4. Natural gas recovery factors in Eocene sands of South Texas are 650 MCF/acre foot in "silty" bar sands and 1400 MCF/acre foot in "clean" bar sands.
5. According to Texas Statewide Rule 8, all oil spills greater than 5 bbls. on land and all oil spills into water must be reported to the Texas Railroad Commission.
6. Some faults near and at the surface of the upper continental slope (1000 m. water depth) southwest of New Orleans serve as conduits along which natural gas and crude oil seep out (through mud volcanoes) into the water column.
7. A lot of time and money are being spent shooting 3-D seismic programs (onshore & offshore).
8. Oil was expelled from lower Cretaceous source rocks during the Paleocene.
9. Lower Miocene sandstones (offshore Texas) were cemented with quartz and pyrite (non-productive) when in close proximity to a shale diapir and became productive when the cements changed to calcite and iron further down dip.
10. Sixteen Upper Jurassic (Norphlet Fm) aeolian dune ridges - spaced 1 mile apart, approximately 20 miles long and oriented in a north-south direction, are present at 21,000 feet beneath Mobile Bay and contain 10 trillion cubic feet of natural gas (TCF) being recovered by 32 wells.

CALENDAR

NOVEMBER 1998

Nov. 7 The Anastasia Formation of Martin and Palm Beach Counties, field trip, by the Miami Geological Society. (Kevin Cunningham. Phone: (305) 526-2895)

Nov. 8-10 American Petroleum Institute, ann. mtg., San Francisco, Calif. (Phyllis West. Phone: 202/682-8054)

Nov. 8-11 American Association of Petroleum Geologists, int'l mtg., Rio de Janeiro. (AAPG Conventions Dept., P.O. Box 979, Tulsa, Okla. 74101-0979. Phone: 918/560-2679. Fax: 918/560-2684)

November 9-12, 4th International Conference on the Geology of the Middle East, Beirut, Lebanon. Information: Mustapha Mroueh, Lebanese National Geological Committee, P.O. Box 11-8281, Beirut, Lebanon, phone 961-1-862665-840262, fax 961-1-822639, ngc@cnrs.edu.lb

November 10-15, 2nd International Conference on the Geology of Cuba, the Gulf of Mexico and Northwestern Caribbean, Pinar del Rio, Cuba. Information: Jorge Corbiella-Regura, University of Pinar del Rio, Marti 270, Pinar del Rio 20100, Cuba, fax 53-82-5479 or 53-82-5813, jcorbiella@upr.edu.cu.

Nov. 13-15 Geological History of the Carolina Terrane in Northeast South Carolina, ann. field trip, Columbia, S.C., by the Carolina Geological Society. (Don Secor. Phone: 803/777-4516. Fax: 803/777-6610. E-mail: secor@geol.sc.edu)

Nov. 14 Oil and Gas Field Trip Offshore, Mobile, Ala., by the Alabama Geological Society. (Bob Mink, P.O. Box 866184, Tuscaloosa, Ala. 35486. Phone: 205/349-2852. E-mail: bmink@ogb.gsa.tuscaloosa.al.us)

Nov. 15-19 Annual Conference on Water Resources, Point Clear, Ala. (American Water Resource Association, Attn.: 1998 Annual Conference and Symposia, 950 Herndon Pkwy., Ste. 300, Herndon, Va. 20170-5531. Phone: 703/904-1225. Fax: 703/904-1228)

DECEMBER 1998

Dec. 6-10 American Geophysical Union, ann. mtg., San Francisco, Calif. (American Geophysical Union, Meetings Dept., 2000 Florida Ave., Washington, D.C. Phone: 202/462-6900. Fax: 202/328-0566. E-mail: meetinginfo@kosmos.agu.org. WWW: <http://www.agu.org>).

December 8-9, Geosynthetic Institute Annual Conference: Lessons Learned from Geosynthetic Incidents, Philadelphia, Pennsylvania. Information: Marilyn Ashley, Geosynthetic Institute, 475 Kedron Ave., Folsom, PA 19022-8440, (610) 522-8440, fax 610-522-8441.

Dec. 13-16 National Ground Water Association National Convention and Exposition, Las Vegas, Nev. (NGWA. Phone: 800/551-7379. Fax: 888/440-NGWA)

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January 10-15, American Meteorological Society 79th Annual Meeting &

Mar. 25-28 National Earth Science Teachers Association, ann. mtg., Boston, Mass. (NESTA, 2000 Florida Ave., N.W., Washington, D.C. 20009. Phone: 202/462-6910. Fax: 202/328-0566. E-mail: fireton@kosmos.agu.org)

Apr. 11-14 American Association of Petroleum Geologists, ann. mtg., San Antonio, Texas. (AAPG Conventions Dept., P.O. Box 979, Tulsa, Okla. 74101-0979. Phone: 918/560-2679. Fax: 918/560-2684)

Sept. 12-15 American Association of Petroleum Geologists, int'l. mtg., Birmingham, England. (AAPG Conventions Dept., P.O. Box 979, Tulsa, Okla. 74101-0979. Phone: 918/560-2679. Fax: 918/560-2684)

Oct. 5-8 American Institute of Professional Geologists, ann. mtg., Anchorage, Alaska. (AIPG, Suite 103, 7828 Vance Dr., Arvada, Colo. 80003. Phone: 303/431-0831. Fax: 303/431-1332. E-mail: aipg@netcom.com)

Oct. 25-28 Geological Society of America, ann. mtg., Denver, Colo. (Becky Martin, GSA Meetings Department, Box 9140, Boulder, Colo. 80301-9140. Phone: 303/447-2020, ext. 164. Fax: 303/447-1133)

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Apr. 6-9 National Earth Science Teachers Association, ann. mtg., Orlando, Fla. (NESTA, 2000 Florida Ave., N.W., Washington, D.C. 20009. Phone: 202/462-6910. Fax: 202/328-0566. E-mail: fireton@kosmos.agu.org)

Apr. 16-19 American Association of Petroleum Geologists, ann. mtg., New Orleans, La. (AAPG, 1444 So. Boulder Ave., P.O. Box 979, Tulsa, Okla. 74101-0979. Phone: 918/560-2639. Fax: 918/560-2626)

May 7-11 Salt Symposium, The Hague, The Netherlands. (Secretariat Organizing Committee 8th World Salt Symposium, PO Box 25, 7550 GC Hengelo Ov, The Netherlands. Phone: 31 74 2443908. Fax: 31 74 2443272. E-mail: Salt.2000@inter.NL.net)

Oct. 11-15 American Institute of Professional Geologists, ann.mtg., Milwaukee, Wis. (AIPG, Suite 103, 7828 Vance Dr., Arvada, Colo. 80003. Phone: 303/431-0831. Fax: 303/431-1332. E-mail: aipg@netcom.com)

Nov. 13-16 Geological Society of America, ann. mtg., Reno, Nev. (GSA Meetings, Box 9140, Boulder, Colo. 80301-9140. Phone: 303/447-2020, ext. 164. Fax: 303/447-1133)

EGS MEETING CALENDAR 1998/1999

November 17: Tom Missimer

December 15: Weixing Guo

January 19

February 16

March 16