IN THIS ISSUE

Member Profile:
Mona Manes

Memorial:
Theodore “Ted” Sandberg

Stromatactis Limestone

Page 14
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Table of Contents

Features:

Member Profiles:
Monna Manes ......................................................... 10

Memorial:
Ted Sandberg ......................................................... 12

Stromatactis Limestone
Sal Mazzullo.......................................................... 14

Book Review

Departments & Columns:

President’s Letter .................................................. 7
From the Manager................................................... 9
Professional Directory .............................................. 19
Advertiser’s Directory ............................................ 17
KGS Tech Talks ..................................................... 4
Kansas Geological Foundation ................................. 23
Exploration Highlights ........................................... 21
KGF Memorials....................................................... 26

ON THE COVER:

Outcrop photograph of Altamont Limestone in Labette County, Kansas exposing phylloid algal limestone (upper half of photo) overlying brownish carbonate sand. Pen for scale.

CALL FOR PAPERS

The Kansas Geological Society Bulletin, which is published bimonthly both in hard-copy and electronic format, seeks short papers dealing with any aspect of Kansas geology, including petroleum geology, studies of producing oil or gas fields, and outcrop or conceptual studies. Maximum printed length of papers is 5 pages as they appear in the Bulletin, including text, references, figures and/or tables, and figure/table captions. Inquiries regarding manuscripts should be sent to Technical Editor Dr. Sal Mazzullo at salvatore.mazzullo@wichita.edu, whose mailing address is Department of Geology, Wichita State University, Wichita, Kansas 67260. Specific guidelines for manuscript submission appear in each issue of the Bulletin, which can also be accessed on-line at the Kansas Geological Society web site at http://www.kgslibrary.com

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FALL 2008

Sept. 16—Scott Sears, IACX

Sept. 23—Macklin Armstrong—"Ethics"

Sept. 30—Dr. Lynn Watney—"High-resolution Sequence Stratigraphic & Chronostratigraphic Investigations of the Lower Shelf and Basinal Lithofacies of the Upper Devonian and Mississippian in the Southern Mid-Continent"

Oct. 7—Roger Slatt—"A Workflow for Integrated Staigraphic Characterization of Mid-Continent Gas Shales"

Oct. 21—David Chernicky, New Dominion

Oct. 28—TBA

Nov. 18—Dr. Neil Suneson—"Sequence Stratigraphy, Depositional Environment, and Reservoir Character of the Booch Sandstones (Desmoninesian McAlester Formation), Arkoma Basin, Oklahoma"

Nov. 25—TBA

Dec. 2—TBA

Dec. 16—Robert White, Whitestar Energy

Dec. 30—TBA

Location for Technical Meetings

All KGS technical presentations are held at 12:30 p.m. at the Wichita Bar Association, located at 225 N. Market, ground floor conference room, unless otherwise noted.

Note: For those geologists who need 30 points to renew their licenses, there will be a sign-in sheet at each presentation and also a certificate of attendance.
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Bulletin committee members and PhD’s in Paleontology are prohibited from entering.
Dear Members,

The time between these letters moves swiftly. It is hard to believe that summer is winding down and fall is almost upon us. Almost all geologists are busy with the business and oil has stayed above $100 a barrel. A bit unbelievable.

As we edge into September remember to mark your calendars for September 16 and the restart of technical talks. Bob Cowdery, as always, has a great slate of speakers to bring before.

The KGS Picnic was well attended and enjoyed by all. It was nice that August had not burned us with its fiery heat but the airconditioned room was still a great place to be in for the picnic. Bingo went well with a couple of bumps with too many winners.

At this time there are no definite plans for a “GEOFEST” this year. If you had an opportunity to attend the Geofest in October 2006 or November 2007 you know what an informative and fun event this can be. The Kansas Geologic Survey is still interested in holding this event as it gives them a chance to show what services they have available and it gives us a chance to learn what all they have to offer. In addition it is a great way to socialize with our colleagues. If you have an interest in this event or have a comment about it please let me know and we can put a Geofest together this year or work on one for next fall.

Everyone that attended the KIOGA luncheon had a treat listening to Dr. Michael Economides and his insight into the business. He spoke well and gave us the good news bad news scenario. Good news is that oil is going to stay high priced for a while with the bad news that it is out of our control. I believe we knew the last part and will enjoy the first part.

Respectfully submitted,

Ernie Morrison
Update on Walters Digital Library

Many of you have expressed your concern over the time it is taking to complete the new software project for the digital library. We have run into some issues that we hope will be resolved quickly and we want you to know that we are still working on solutions and upgrades.

The KGS Board of Directors and myself are striving for a product that will work the best for you, our members. Please feel free to contact us if you want more information. Our goal is still in sight and we plan to get there!

Rebecca Radford, Manager

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Dear Members,

I wanted to take this space to thank our KGS summer help and recognize our entire staff here in the library. We had a great crew this summer and they made great progress on getting incoming data processed. The library staff is processing, on average, 1,000 new logs scanned, printed and filed into the paper library per month. In addition to the logs, we are also processing several hundred plotted geo reports and other miscellaneous data. This is no small task and I want the staff to know how much they are appreciated for their work.

Respectfully submitted,
Rebecca Radford

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Kansas Geological Society should have an awareness of its female members, who are becoming increasingly more common, as well as its male members. Monna Manes is the first to be profiled for the Bulletin.

Monna’s story commences in 1936 in Villisca, Iowa where her father, Chalmer, was farming having previously been a teacher. Her mother, Gladys was a housewife. Monna had two sisters: Mary Lou who works at St. Francis Hospital and Maxown, deceased. Her parents were both killed in the Andover tornado in 1991.

She attended country schools until the eighth grade and from then on until her graduation from high school, she attended schools in Elmo, Missouri. After high school she attended Clarinda Junior College in Clarinda, Iowa where she graduated win an A.A. degree in 1956.

Moving to Wichita after Junior College, Monna found employment with Emnar Incorporated on a n assembly line filling paint cans. In 1957, she went to work for the Fourth National Bank where she stayed for nine years. Although she advanced to a loan teller position, she found the work to be quite boring. Eventually she decided there was more to life and enrolled at Wichita State and selected additional biology classes over banking. In a Physics class she met a girl who suggested that she would enjoy a class in Geology. After taking this introductory class, she was “hooked”.

At Wichita State, Monna believes she was fortunate to have Dr. Robert Berg as an instructor and mentor. Monna graduated in Geology in 1970 and received her Masters in 1973. She is of the opinion that Dr. Berg was instrumental in securing Research assistantship and an instructor position for her at Wichita State.

She continued teaching at WSU until 1979 and also taught Geology at Butler County Community College for one semester in 1977.

In 1980, she was hired by R.R.A. Inc as a field geologist to work Eastern Kansas and in 1981, she was employed by Energy Exploration Inc. as Exploration Manager and Head Geologist. Here she met Nelson Thomas who was completing the company’s wells. He taught Monna how to sit wells in Western Kansas. Although she did not label Nelson as the biggest character she had encountered, she did describe him as very entertaining.

Monna became an Independent Geologist in 1983 continuing in wells site work and writing prospectuses for clients. During this period she had some very interesting experiences with some of the “promoters”.

With her very gratifying experiences as a Petroleum Geologist, if she had to make the choice of professions again, it would definitely be the same. She has a word of advice to the young geologist entering the field, that being “go to a four year college with a good Department of Geology”.

Monna has maintained an interest in Geology and continued her membership in the Kansas Geological Society. Also at one period, she was a member of the American Association of Petroleum Geologists. Currently she has transferred her interest in rocks and minerals to a jewelry and lapidary business and in doing so has put to use the information derived from a course in Mineralogy. She cuts stones, does sliver smithing and designs mountings.

She is not retired, but does find time for camping and traveling and in the past has volunteered her time to help a friend teach a science course at West High.

This has been a far too short description of the background, history and career of one of the KGS’s most interesting members.
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With the passing of Ted Sandberg on July 13, 2008, the Petroleum Industry lost a leader, the profession lost a stalwart, the Kansas Geological Society lost a Past-President and an Honorary Member, Kansas Geological Foundation lost one of its strongest supporters and many individuals lost a good friend.

Ted was born in Wichita on December 24, 1931 and resided in Wichita most of his life. His father was Advertising Manager of the Wichita Eagle for a period, but later the family followed his father’s profession and lived in Miami, Fl; Denver, CO; and Des Moines, Iowa.

Because of the family’s travels, Ted was in kindergarten and early elementary school elsewhere, but returned to Wichita and enrolled in Sunnyside Grade School, later he attended Roosevelt Intermediate School. He graduated from Wichita East High School in 1950.

Following graduation, Ted enrolled in the University of Wichita where he came under the guidance of Dr. Ver Wiebe, who helped secure part-time employment with Magnolia Petroleum. Also working for Magnolia at this time was George Mueller.

In 1952, Ted married Sue Ann Hasler and they were together for 55 years. Ted is also survived by sons, Clarke also a geologist in Wichita and Joe of Las Vegas, Nevada. He also is survived by four grandchildren and three great-grandchildren. A sister Diane Sanders of Lawrence, Kansas also is a survivor.

After graduation from the University, Ted was employed by W. L. Hartman as a geological trainee for a short period. In November 1954, Ted was called into the Air Force as a result of his enrollment in ROTC at the University. From 1954-1956, he was stationed at the Air Force Special Weapons Center, Albuquerque, New Mexico where he served as Research and Development officer responsible for the security of atomic weapons and delivery systems. After spending 13 years in the Inactive Reserve, Ted was discharged with the rank of Captain.

After discharge from the Air Force, Ted returned to Wichita and joined NCRA as a geological trainee and later staff geologist. Ted was employed by NCRA until 1963 when he joined Don Slawson, a local Independent Operator. Ted had a very successful career with Slawson Oil and when he left in 1985, he was Northern Mid-Continent Exploration Manager.

In 1985, Ted established a partnership with Bruce Anderson of Houston, Texas and it operated very successfully for ten years. In 1995, Ted continued operations as Sandberg Oil Co. and continued that operation until his death.

Ted was very active in a number of community organizations, serving as President of the Petroleum Club (1990-1991), WSU Endowment Association and the WSU Geology Advisory Board. He and Sue have been active members of Eastminster Presbyterian Church.

Professionally, besides the presidency of the KGS, he severed as a board member of the Kansas Geological Foundation. He was a member of the American Association of Petroleum Geologists and the Society of Independent Professional Earth Scientists.

Several activities provided great joy to Ted’s life. Well into his career, Ted fulfilled a wish to fly, took lessons and owned and piloted his own plane. This accomplishment also supplemented another interest of Ted’s that being going to his “second home” at Grove, Oklahoma on the “Grand Lake of the Cherokees” on almost a weekly basis until his health wouldn’t permit.

Ted will be greatly missed by all: family, friends, and associates. The family has designated Eastminster Presbyterian Church and the Kansas Geological Foundation as memorial recipients.
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**Stromatactis Limestone**

There is an excellent guide available at the KGS Library that provides a self-guided tour of buildings in downtown Wichita that were constructed from various types of local and out-of-state stone. Some of those buildings, for example, were constructed of the famous Mississippian Salem Limestone (bioclastic grainstone), and from closer to home, of the pisolithic “Silverdale Limestone” (informal term) of the upper Florence Limestone quarried from southern Cowley County, Kansas. Examples of other types of building stone are present throughout the downtown area. A little-known stone that is present in Wichita as an exterior and interior wall-facing stone, and locally as an interior floor-paving stone, is so-called “stromatactis” limestone (Figure 1). Excellent “exposures” of this rock are present in the Intrust Bank building at the intersection of Main and Douglas Street, and in the lobby of the Commerce Bank building just north and east on Intrust on Main Street.

*Figure 1 - Example of stromatactis wall-facing stone from the lobby of the Commerce Bank building on Main Street. Note the red lime mud matrix, and layers with abundant clots of white calcite spar (former marine) cement (arrows). Circle encompasses the cartoon in Figure 2.*

*Figure 2 - Generalized illustration showing fabric of “clots” in typical stromatactis limestone. The clots are former cavities that were occluded by either fibrous former marine aragonite cement or bladed former high-magnesian calcite marine cement. Cements are interspersed with internal sediments, and cavities may be finally occluded by later non-marine calcite or dolomite cements.*
Stromatactis, or “zebra” limestone, has been known for a long time, and was first well-documented geologically by Reuben Ross from outcrops of Ordovician rocks, seemingly of biohermal origin, in Nevada. The conspicuous characteristic of these rocks is the dominantly micritic (lime mud) matrix and the presence of *stromatactis* — specifically, “clots” of white calcite spar cement throughout the rocks. The origin of such fabrics remained enigmatic for many years until it was finally determined that the “clots” of calcite actually represent syndepositional cavities in the mud that formed during deposition, and which were rapidly occluded by fibrous marine aragonite and/or bladed high-magnesian calcite (now calcite) cement that was precipitated in the voids from marine pore fluids (Figure 2). Such early cementation gave the typically muddy biohermal sediments some degree of coherency. Why such cavities formed originally in the sediments is not known, but ideas vary from them being formed displacively by gas generated by the bacterial decay of organic matter in the sediments, to (less likely) having been formed by the decay of some unknown soft-bodied organisms. In many cases the cements within such cavities are multi-generational in that there are several generations of marine cement present, and many cavities also may include a final pore-filling of freshwater or burial calcite or dolomite. The presence of such abundant marine cement in the cavities was facilitated by ample volumes of porosity-occluding marine pore fluids being transported through the sediments, and likely was mediated by bacterial oxidation of organic matter in typically organic-rich muddy sediments. In addition to the marine cements, the cavities also may contain laminae of internal (micritic) sediment washed into the voids from the enclosing sediments. *Stromatactis* limestones are present throughout the world mainly in Paleozoic and Mesozoic rocks, and they locally are common in Mississippian mud-rich “Waulsortian” limestones that locally are prolific hydrocarbon reservoirs in the southern mid-continent. They probably exist in the subsurface of southernmost Kansas and northern Oklahoma as Mississippian bioherms or “Waulsortian” mounds. Where dolomitized, such bioherms or mounds may be hydrocarbon reservoir objectives.

Chaetetes-Rich Middle Pennsylvanian Limestones

*Figure 3 - Roadcut in Labette County of the Altamont Limestone with two highlighted, in-place Chaetetes “heads” (lower part of photo, arrows) and highlighted, overturned head (arrow at top of photo). Enclosing rocks are bioclastic sands. Hammer for scale.*
Middle Pennsylvanian (Desmoinesian – Cherokee and Marmaton) limestones are locally prolific hydrocarbon reservoirs in Kansas. In many cases these rocks are described by well-site geologists as being oolitic or very rich in fossils, and with good porosity. Such rocks locally contain very distinctive *Chaetetes*, which are widely regarded as being sponges. *Chaetetes*-rich limestones comprise typical Middle Pennsylvanian reef facies throughout the mid-continent, where they also locally are hydrocarbon reservoirs. Exposures of oil-stained, *Chaetetes*-bearing limestones in the Altamont Limestone in Labette County, Kansas were recently summarily described in a recent KGS Bulletin by Michael Lichtenwalter and Collette Burke (2008). These rocks comprise skeletal (bioclastic) carbonate sands (grainstones) with both in-place and storm-toppled *Chaetetes* “heads” (Figure 3), and they are associated in certain horizons with phylloid algal-rich limestones. Accordingly, they are quite analogous to *Chaetetes*-rich limestones in the subsurface.

Although the rocks in the outcrop example illustrated in Figure 3 are relatively tight, *Chaetetes*-bearing limestones in the subsurface may have tremendous porosity and permeability because of the presence of: (i) interparticle pores in carbonate grainstones; (ii) intraparticle pores in grainstones and in typically micritic phylloid algal-rich limestones; (iii) intraparticle pores within *Chaetetes heads*; and in many cases (iv) vugs in the rocks and *Chaetetes heads* associated with meteoric exposure along and beneath unconformities. *Chaetetes* is very easy to identify in cores, and fragments of *Chaetetes* similarly are very easy to spot in well cuttings. Hence, trends of potential *Chaetetes* reefs and associated limestone facies can readily be mapped in the subsurface as potential exploration plays.

submitted by Sal Mazzullo

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KGS Annual Clay Shoot

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212 N. Market, Ste. 100, Wichita, KS 67202
Pintail Petroleum LTD has recovered crude oil from the Cherokee Sands at the Double F Ranch #1-30 exploratory well in Trego county. The wildcat well found oil deposits between the Kutina field to the northeast and the Kutina Southwest field to the southwest. Both fields have produced Cherokee oil in the past, but closest recognized infield production lies over one-half mile away. Pintail’s latest find is spotted in the SE/4 of section 30- T15s- R21W, about five and one-half miles northeast of Brownell, Kansas. No other production details have been reported. Total depth is 4309 ft.

In Hodgeman county, about five miles northeast of the city of Hanston, Rains & Williamson Oil Company has discovered Mississippian oil deposits at the Hahn #1, located in the SE/4 of section 25- T21s- R22W. The new unnamed pool opener was placed on production in early July ‘08 at an undisclosed rate. Anderson Drilling tools were used to drill the well to total depth of 4489 ft. The well site lies nearly two and one-half miles southwest of the Marena field that produced oil from the Mississippian from 1973 to 1981.

One mile north of the Kisner (Morrow oil) field in Finney county, BEREXCO, Inc. is producing an unknown amount of oil from both the Atoka and Morrow formations at their Craft Trust #1-25. The wildcat well was drilled by company rig to a total depth of 5373 ft. in the SE/4 of section 25-T26s- R33W. No other details are available. The new unnamed field is located 13 miles south of Garden City, Kansas.

Russell Oil has discovered a new producing horizon within the Zelda field in Sheridan county. New Marmaton oil pay has been established with the completion of the #1 FL Unit in the SW/4 of section 19- T10s- R30W. The well adds to the existing Lansing-Kansas City oil output coming from two earlier wells completed by Russell Oil that established the Zelda field last year. Russell Oil hired H2 Drilling to drill the well to a total depth of around 4550 ft. No details have been released. Field area lies four miles northwest of Grinnell, Kansas.

IA Operating has completed their #10-1 Roger well to establish a new unnamed oil field in Ellis county. The new reserves were discovered in the SE/4 of section 10- T11s- R16W, about seven miles southeast of Codell, Kansas, and over one and one-half miles east of the multiple pay Lieb Northeast field. Though no details have been released, the general area produces oil and gas from the Shawnee, Lansing-Kansas City and Marmaton groups. However, Reagan Sand zone was designated as the primary zone of interest with closest Pennsylvanian Basal production located over two miles away from the lease.
(6) In the northeast Kansas county of Nemaha, Wichita-based Noble Petroleum has discovered oil deposits at the Rilinger #1 wildcat venture that was drilled in the SW/4 of section 25- T4s- R13E. C & G Drilling tools were used to drill to an estimated 3800 ft. The Viola, Simpson and Hunton zones were originally targeted for exploration. Well site is situated one and one-half miles southwest of the McClain Southwest pool where the Viola and Simpson zones are productive. No production information has been released. The new unnamed field lies just northeast and outside of the Goff city limits.

(7) Larson Engineering has completed its #1-30 Vogel as Mississippian oil producer in the SE/4 of section 30- T18s- R26W, in Ness county. The wildcat well opens a new unnamed field three-quarters mile south of the Lamoree North field which Larson discovered in 2005. The Lamoree field has produced over 196,000 barrels of crude oil from the Mississippian formation since its founding. Larson has successfully completed seven out of eight wells as producers in the field to date. The Vogel lease is located about three and three-quarters miles southeast of the town of Alamota, Kansas.
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The KGS Picnic was another successful event thanks to Marjorie Crane, picnic chair, Pat Morrison & Paul Ramondetta. We had a great turnout and wonderful weather. There seems to be many more little ones attending again and that is good to see. The number of little ones must be in direct correlation with the number of young people involved in the oil and gas industry in our state. The KGS and the picnic committee wish to thank all of the supporters of this event and those businesses that contributed prizes for bingo. We would also like to thank the WSU students who worked the check-in table.
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