KANSAS GEOLOGICAL SOCIETY
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BULLETIN

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IN THIS ISSUE

- Earth Day 2006 Highlights
- Member Profile: George McNeish
- KGS Golf Tournament info
- Book review & New CDs list
- Memorial: John Benard Mullen
- Tales From The Dog House
- Annual AAPG—Houston, TX Summary
- Core Hole & Seismic Library progress report
- "Coeval deltaic, platform carbonate, and condensed shelf sedimentation, Upper Pennsylvanian Leavenworth Limestone-Heebner Shale-Plattsmouth Limestone-Heumader Shale depositional sequence, SE Kansas and NE Oklahoma: Part II", by Wan Yang, Michael Bruemmer, and Monica Turner-Williams

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ON THE COVER

Field photo of graduate students (M. Turner-Williams, right, M. Bruemmer, left, A. Jalal, second from left) of Wichita State University and boy scouts of the Quivira Camp underneath a 10-m cliff of the phylloidal algal mounds of the Plattsmouth Limestone at Location 244, Chautauqua County, Kansas, in summer 2000. See the related papers in this and last issues for detailed discussion. Photo taken by W. Yang.

Table of Contents

President's Letter 5
Manager's Letter 8
KGS Committee Chairmen 9
Advertising Directory 10
Technical Paper: "Coeval deltaic, platform carbonate, and condensed shelf sedimentation, Upper Pennsylvanian Leavenworth Limestone-Heebner Shale-Plattsmouth Limestone-Heumader Shale depositional sequence, SE Kansas and NE Okalahoma, Part II", by Wan Yang, Michael Bruemmer, and Monica Turner-Williams 12
Professional Directory 25
Library CD List 28
KGF News 29
Member Profile: George McNeish 30
Digital Library News 32
New KGS Members 33
Tales From The Dog House 34
KGF Memorials 36
Exploration Highlights 37
Book Review 38

KANSAS GEOLOGICAL SOCIETY TECHNICAL PROGRAMS

May 4— Dr. Lynn Watney, et al; "Evaluating structural controls and their role in forecasting properties of phanerozoic rocks in the Northern Mid-Continent, U.S.A.-Ancient examples and modern analogs"

May 11— Bob Westermark, Grand Oil, Subject will be on horizontal drilling.

May 18— Dr. David Wald, USGS, Denver, "Rapid Post-Earthquake Information from the US.G.S National Earth quake Information Center"

May 25— Exploration Seminar, Series of CDs for anyone needing CEU credits. 1:00-5:00 pm at KGS Library

(No technical talks are scheduled for June, July & August)

All KGS technical meetings are held at 12:30 p.m. in the Bank of America Auditorium 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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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

PRESIDENT'S LETTER

Dear Members,

Houston was the site for the AAPG 2006 Convention on April 9-12, 2006. The convention had a draw of over 8300 people. The KGS along with the KGF displayed the Walters Digital Library and various other aspects of our organizations. This was the first National AAPG convention I had attended in many years and was taken back by all the changes that has taken place in the Oil and Gas Industry. I would like to say thanks to Rebecca for operating the booth and our other members that stop to help.

One thing that I continued to hear throughout the convention was how fortunate in Kansas we are because our ancestors did such an outstanding job for putting together the KGS Library. That all of the geological data is located in one central place and that we had always been ahead of the times in what ever we did. I would encourage all of you who are not members of AAPG to join, participate in the organization and attend the conventions. The Mid-continent convention in 2007 will be in Wichita and we have many of our KGS members working hard on it to make it one to remember.

You do not have to be a petroleum geologist to get something out of AAPG, they cater to all geologists. The Energy Minerals Division (EMD) was organized to advance the science of geology especially as it relates to energy minerals (such as coal and uranium), unconventional hydrocarbons (including coalbed methane, gas hydrates, gas shales, oil shale, and oil sands), geothermal energy, geospatial information (remote sensing, GIS), and energy economics.

EMD members are encouraged to actively participate in the society by helping to organize or attend any regional, national or international meeting, symposium, workshop, short course, or field trip, by publishing in the AAPG *Bulletin*, the AAPG EXPLORER, and EMD special publications. EMD keeps professionals informed and informs others for the benefit of its members.

Established in 1992, Division of Environmental Geosciences (DEG) is concerned with increasing awareness of the environment and the petroleum industry and providing AAPG with a scientific voice in the public arena. Their objectives include educating members about important environmental issues; supporting and encouraging research on the effects of exploration and production on the environment and communicating scientific information to concerned governmental agencies. If you want more information about AAPG, please contact Bob Cowdery or me or go to there web site at www.AAPG.org.

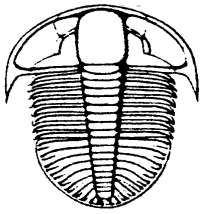
Earth day was April 20th and we had another great turn out of kids. This year's theme for our booth was soils of Sedgwick County. I would like to thank Tom Hansen for all his hard work in putting together this year's program and all of you that helped in the booth.

I would like to congratulate Bill Harrison in being named as the Kansas Geological Survey new Director and State Geologist. Bill has been with the Survey for a number of years and had been the acting director the last year.

Do not forget our upcoming events, Fishing Tournament is May 5th and the Golf Tournament is June 12th.

I would like to close by saying thanks to all Kansas Geological Society members past and present for all their hard work on making this society what it is today and what it will be in the future. With out your professionalism we would not be what we are today.

Thanks,
Chuck Brewer



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for advertising fees!

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***Bulletin* committee members and PhD's in Paleontology are prohibited from entering.**

Highlights from earth day 2006
Sponsored by KGF, KGS & Kansas Geological Survey

Chuck Brewer, Tony Vail, and Tom Hansen worked the booth this year where over 6000 children passed through the gates. What's in my dirt? was the theme this year. Chuck furnished soil cores. clay, silt (flour), sand, and organic material were used to teach the children what makes a soil . Bob Cowdery's handouts were given to all the teachers that came by the booth.

FROM THE MANAGER'S DESK

Dear Members,

What a hot spring! Not only in temperature but out there in the oil patch……..things just keep heating up. It is great to see all of this activity and we hope it continues.

We have some spring activities coming up: the KGS Annual Fishing Tournament will be Friday, May 5th at the Kingman State Fishing Lake. We need more fisher-people so see if you can find some time to take off and enjoy a day at the lake.

June 12th (Monday) will be the KGS Golf Tournament. This is always a great deal of fun and some good prizes to be had. Kevin Davis is heading up the tournament this year and I know has a great one planned. Keep the date open because I know you all want to play this year!

The Foundation will have their annual Spring Mixer at the Petroleum Club again this year. It is scheduled for Wednesday, May 17th. This is always a fun evening, very casual and you don't have to belong to the Foundation to attend. As a matter of fact, we would like you to come and bring a friend or family. It is one of those parties that is "the more the merrier!"

We have hired another person to work in the KGS library. Her name is Tammy Nichols. Tammy started on April 3rd. Please stop in and meet her when you get a chance. We are going to be concentrating on integration of basement data as well as getting more of the new data into the digital database.

The KGS & KGF had a booth at the AAPG annual convention in Houston in April. I would like to thank Chuck Brewer for all of the time he gave to the booth, as well as Ken Dean who booth sat so I could eat some lunch! Thanks guys. Not too many of the attendees were Mid-Continent folks but those who were, stopped by and visited and we had all of the information out promoting AAPG Mid-Continent in Wichita in 2007.

Please remember that my door is always open and if you have any concerns or suggestions, please let me hear about them.

Respectfully submitted,

-Rebecca Radford

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Monday
May 29th

KGS Library will
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Larry Friend and Ted Jochems invite you to submit your e-mail address to an automatic notification list when such things come up for sale.

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	page
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Murfin Drilling Company, Inc	11
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Trilobite Testing	6
Walters Digital Library	32

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Coeval Deltaic, Platform Carbonate, and Condensed Shelf Sedimentation, Upper Pennsylvanian Leavenworth Limestone-Heebner Shale-Plattsmouth Limestone -Heumader Shale Depositional Sequence, SE Kansas and NE Oklahoma – Part II. (Controlling Processes)

Wan Yang
Department of Geology, Wichita State University, Kansas 67260
E-mail: wan.yang@wichita.edu

(continued from last issue)

The juxtaposition of contrasting facies tracts of the Heebner marine condensed section (mcs) and the Plattsmouth early highstand systems tract (HST) of the Leavenworth Limestone-Heebner Shale-Plattsmouth Limestone-Heumader Shale (LHPH) depositional sequence, as presented in Part I (Yang et al., 2006), constitutes a unique stratigraphic architecture of an archetypal sequence on the Mid-continent shelf. Part II of this article speculates the processes controlling the development of the stratigraphic architecture.

PROCESSES CONTROLLING COEVAL DEPOSITION OF AND JUXTAPOSITION BETWEEN ANOXIC SHELFAL SHALE AND DELTAIC DEPOSITS OF HEEBNER MARINE CONDENSED SECTION

The long-distance progradation and build-up of multiple Heebner deltas (Figs. 3, 4, 5, 6. Figures are continuously numbered from Part I) require a large amount of sediment production in the provenance and fast sediment delivery to the depositional site during sea-level highstand when the shoreline was the farthest away from the study area (Fig. 2). The location and direction of deltaic progradation suggest a southern provenance, i.e. the Ouachita Mountains (Fig. 8; Moore, 1979; Rascoe and Adler, 1983). Three major factors contributed to the Heebner delta formation: (1) the climate in the Ouachita Mountains during sea-level highstand was probably sub-humid with a long-wet and short-dry seasonality (Perlmutter and Matthews, 1989; Cecil, 1990; Soreghan, 1994; Tandon and Gibling, 1994), which was conducive of a large sediment yield (Schumm, 1968; Heckel, 1995; Yang, 1996). (2) Renewed uplift in the Ouachita thrust belt (Heckel, 1994; Archer and Feldman, 1995) would have promoted sediment generation. And (3) the large river runoff in a subhumid climate, steep piedmont on the filled Arkoma Foreland Basin exacerbated by renewed Ouachita uplifting, and closeness (~200 km) of the provenance to the study area probably had facilitated sediment transport from Ouachita Mountains to NE Oklahoma.

The deposition of organic-rich and phosphatic shale under dysoxic and anoxic bottom conditions on the Kansas shelf was explained by the eloquent model of oceanic upwelling and estuarine circulation of Heckel (1977). This model was modified using the modern coastal upwelling system on NW African shelf to explain not only the shelf anoxia, but also the close juxtaposition of anoxic shelf and deltaic facies in the study area.

In the Northern Hemisphere, the Coriolis force causes a wind-driven surface alongshore current to deflect and flow to the right of the generating wind. This phenomenon is called Ekman transport, which commonly occurs in a surface layer (δE) 10s m thick (Fig. 9). On a shelf where the water is not much deeper than δE and the sea floor serves as a bottom boundary, major modern coastal upwelling systems are generated by a coast-parallel wind and occur at a distance from the coast (Fig. 9; Smith, 1983). Between the upwelling system and the coastline, currents must flow parallel to the coastline. In the upwelling system, the light sur-

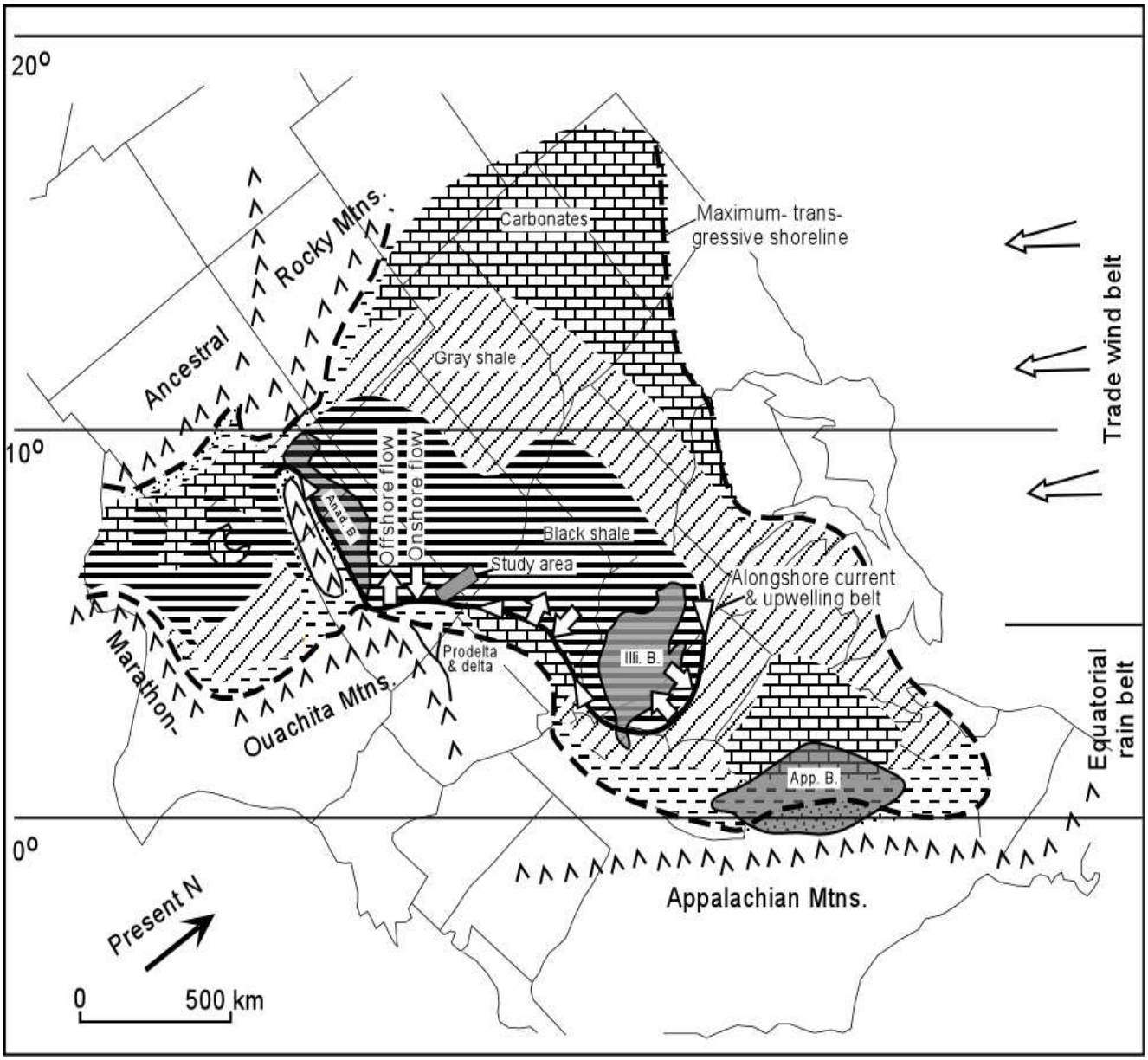

Figure 8. Paleogeography of the midcontinent during maximum transgression associated with sea-level highstand in Late Pennsylvanian time. An oceanic upwelling system may have been developed along the southeastern and southern coast of the midcontinent sea. The system was driven by northeasterly trade wind and Coriolis force and is composed of clockwise circulating alongshore currents, onshore bottom current, and offshore surface current. App. B. - Appalachian Basin, Anad. B. - Anadarko Basin, Illi. B. - Illinois Basin. Paleogeography modified from Heckel (1991) and Archer and Feldman (1995).

face water transported away from the coast must, owing to the continuity of the system, be replaced by heavier subsurface water. The replacement results in denser water and lowered sea level along the coast, which create a pressure gradient toward the coast across the shelf, with which must, by geostrophy, be associated a current running parallel to the coast in the wind direction. Thus, the wind produced not only a pure surface offshore flow, but also a deep geostrophic current that runs in the direction of the wind.

In a shallow coastal and shelfal setting, the Coriolis force, current flow, and the friction between the water and bottom sediments will also create a bottom onshore "Ekman transport", in contrast to the surface offshore Ekman layer (Smith, 1983). The $\delta E/H$ ratio, where H is the shelf water depth, determines the flow characteristics (Smith, 1983). Where $\delta E/H << 1$ (i.e. a very deep shelf), surface and bottom Ekman layers develop and are separated by a region where the geostrophic alongshore current is dominant. Where $\delta E/H$ is close to 1 (i.e. a moderately deep shelf), the surface and bottom Ekman layers merge, but the rotational effects are still strong, and an appreciable angle still exists between the near surface and near bottom currents. Where $\delta E/H >> 1$ (i.e., a shallow and wide shelf), all the flow is parallel to the coast in the wind direction. For example, during strong wind events when $\delta E/H$ is larger than five, for the inner 25 km of NW African shelf the upwelling circulation pattern separates from the coast (note the lighter water landward of the upwelling center in Fig. 10A). After a few days of strong upwelling favorable winds, the upwelling center is ~20 km wide and is ~30 km from the shoreline because the formation of Ekman transport cannot occur in very shallow water; the nearshore water warms up and the mid-shelf water cools down; and the rotational effect, which leads to the cross-shelf circulation essential to "upwelling", is negligible in the nearshore region. Thus, the surface water landward of the upwelling center is dominated by strong alongshore currents in the downwind/equatorward direction. Smith (1983) further documented that the offshore and onshore upwelling currents also have a very strong alongshore component in the downwind direction; the bottom onshore flow is much faster than the offshore surface flow; and the downwind alongshore flow is the fastest in the middle and upper shelf (Figs. 10B,C, 11).

In summary, shallow and wide shelves with active upwelling systems can be subdivided into two regions – a region between the coastline and the upwelling center, where surface and bottom alongshore currents are dominant and water is warm, and the other region that is occupied by an upwelling center, where bottom onshore and surface offshore currents are present, both of which have a strong alongshore component.

Using the modern NW African upwelling system as an analog, a surface alongshore current driven by the northeasterly trade wind (Heckel, 1977) would have flowed to the west along the southern margin of the midcontinent shelf, forming a shelf-wide, clockwise, surface water circulation (Fig. 8; cf. Heckel, 1977). When the shelf deepened to reach an adequate $\delta E/H$ ratio during the Heebner sea-level highstand, Coriolis deflection would have generated an upwelling system similar to that on the NW African shelf. The Heebner upwelling center (or belt) was located offshore north of the southern coast of the Kansas shelf; and a surface wind-driven alongshore current and a deep geostrophic alongshore were present in the nearshore region between the shoreline and the upwelling center.

In addition, an east-west basin-wide estuarine circulation would have been present because of large freshwater input to the enclosed midcontinent sea (Heckel, 1977). The estuarine circulation was aided by the trade wind and would have generated offshore surface

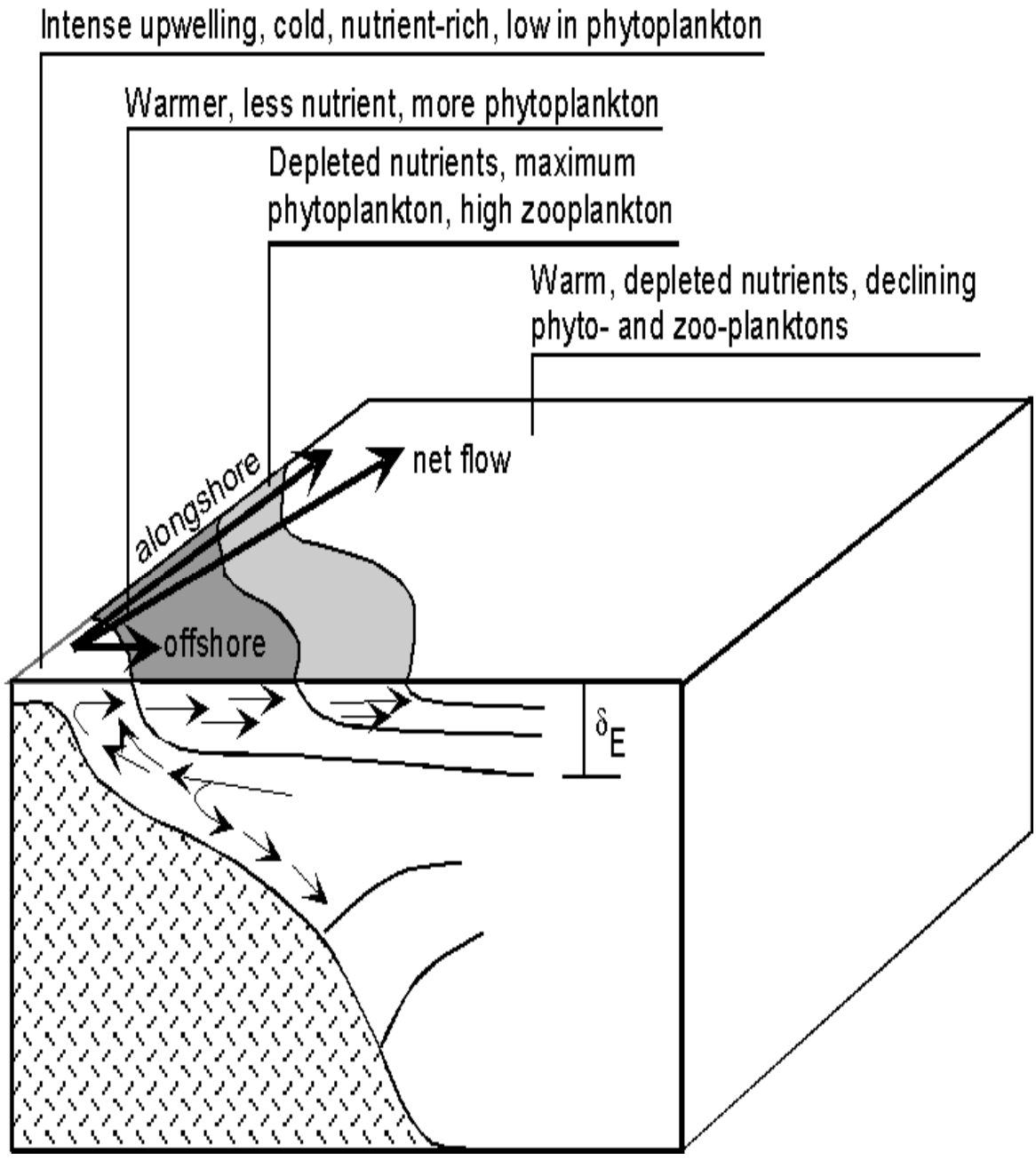

Figure 9. Diagram illustrating the conceptual model of Ekman transport and coastal upwelling of Smith (1983). Considering a wind in the Northern Hemisphere blowing parallel to the coast, at some distance from the coast, the surface water will be transported to the right of the wind, but at the coast all motion must be parallel to the coastline. Modified from Jones et al. (1983).

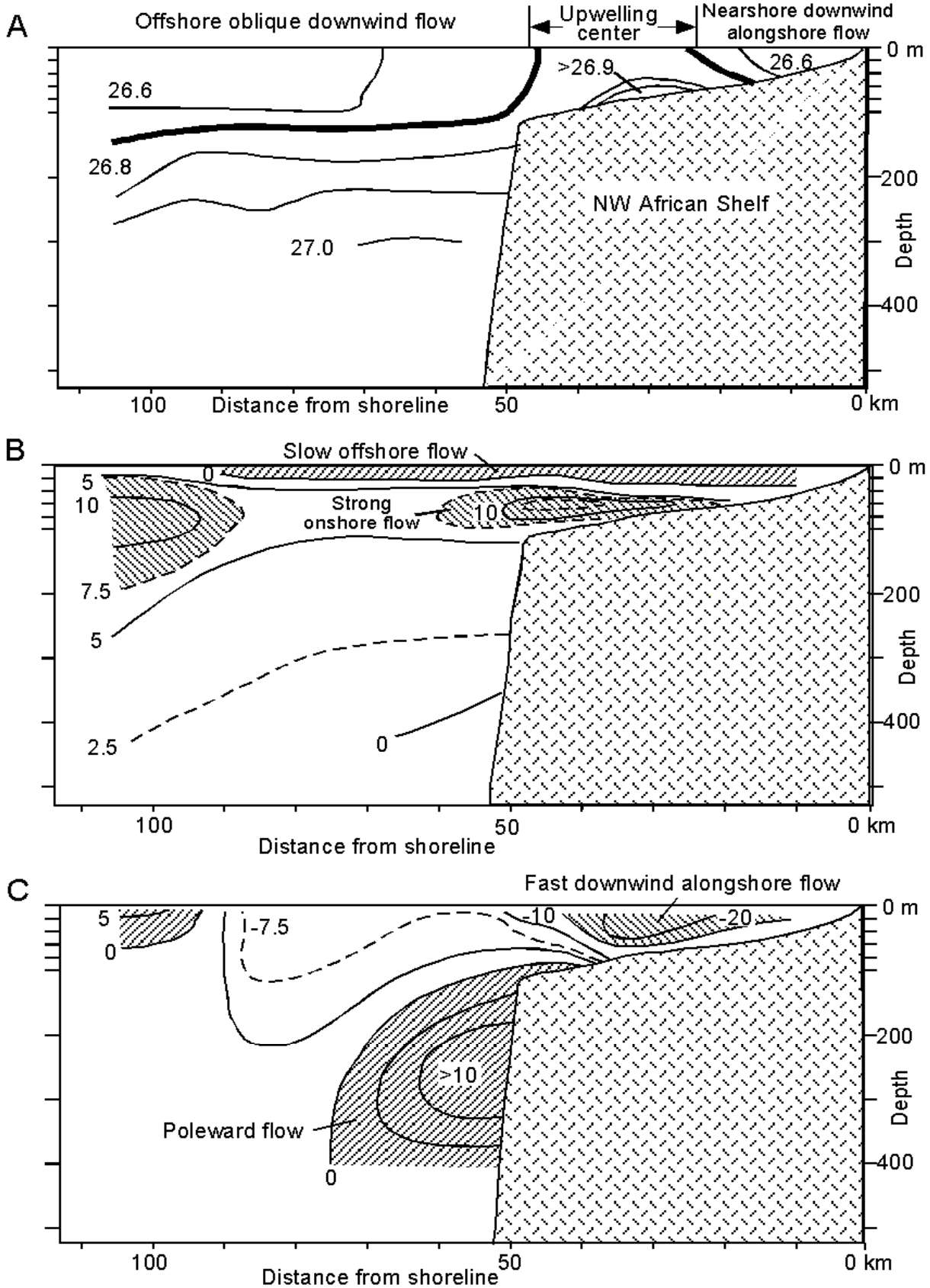

Figure 10. Density (δT, in unit of 10^{-3} g/cm^3) section (A), cross-shelf (B) and alongshore (C) flows in unit of cm/sec across the shelf and slope during periods of strong upwelling-favorablewinds (5-6 April 1974), NW Africa at 21°40'N. Modified from Smith (1983).

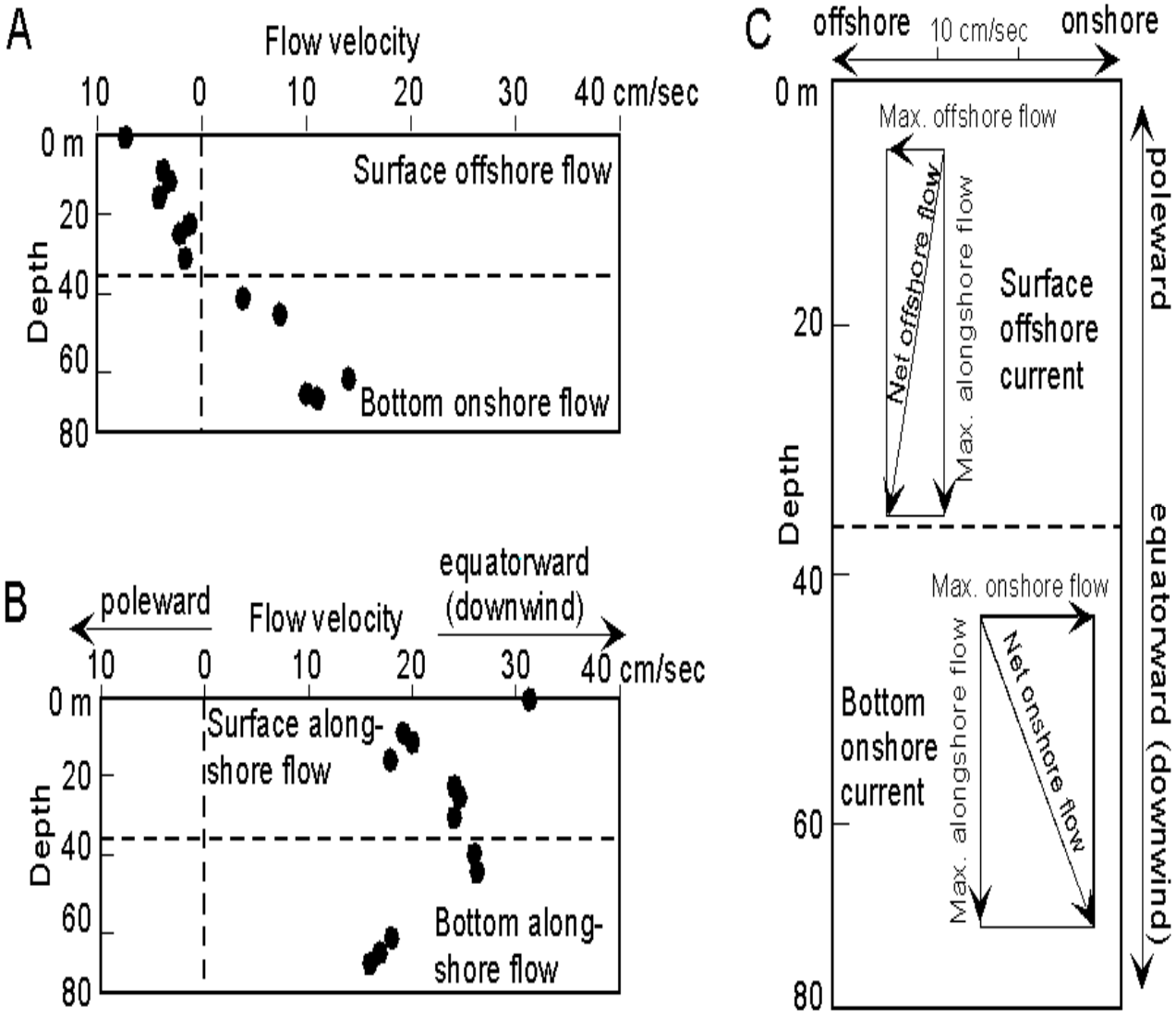

Figure 11. Mean cross-shelf (A) and alongshore (B) current profiles from the mid-shelf moorings (10 March to 6 April 1974) on the NW African shelf (slightly modified from Barber and Smith, 1981). (C) Net onshore and offshore flow calculated using the maximum velocities of onshore, offshore, and alongshore flows in surface and bottom zones, respectively. Both the bottom and surface net flows have a large downwind component, and are subparallel to the shoreline. Data are measured and derived from (A) and (B).

transport along the margin of the midcontinent sea (Fig. 12; Heckel, 1977). The circulation would have enhanced the surface-bottom density and oxygen stratification caused by coastal upwelling. The overall surface water convergence due to upwelling offshore surface current and estuarine circulation may have generated an oceanic gyre in the center of the midcontinent sea. The gyre would, in turn, have reinforced the alongshore geostrophic current.

The strong westward alongshore flows would have hampered northward progradation of Heebner deltas and diverted it toward W-NW where the shelf deepened toward the Anadarko Basin, and walled off northward transport of prodeltaic mud onto the shelf (Figs. 7B, 13A). The strong onshore bottom flow aided in this walling effect. As a result, the prodeltaic toe slope was steepened and the shelf became starved. Moreover, the nutrient-rich surface offshore current would have caused an increase in surface primary organic productivity, inducing bottom anoxia on the starved shelf (Heckel, 1977). The shelf anoxia was probably exacerbated by nutrient recycling in the upwelling system (Smith, 1983).

In summary, location, tectonic movement, and climate of provenance and regional topography controlled the initiation and development of the Heebner deltas. Oceanic circulation pattern, prevailing wind, and regional coastline morphology combined with sea-level highstand controlled the development of shelf anoxia, delta morphology and direction of progradation, and juxtaposition of shelfal and deltaic deposits in the study area.

PROCESSES CONTROLLING FACIES TRACTS AND JUXTAPOSITION OF THE PLATTSMOUTH LOWER HST

Oceanic circulation may have also exerted a significant control on the facies architecture of the Plattsmouth lower HST (Fig. 1). The initial slow sea-level fall in the Plattsmouth time caused shelf shallowing and a decrease in δE/H value. As a result, the upwelling centers would have gradually shifted W-SW toward the Anadarko Basin, and the nearshore warm water zone expanded. The warm water zone was shallow, well-lit, and likely well oxygenated, where the phylloidal algal mound facies tract of the Plattsmouth Limestone was deposited (Fig. 7C).

The east-west surface and deep alongshore currents were still strong in the nearshore warm zone, according to Smith's (1983) model. The currents may have been focused in the topographic low (i.e. the facies transition zone) (Fig. 13B). They would have walled off any northward transport of fine-grained siliciclastic sediments, protecting the shelf carbonate environment from being contaminated. In and around the trough, cross-bedded and well-washed arenaceous packstone/grainstone, fossiliferous sandstone, and intraclastic limestone conglomerate were deposited (Fig. 4B). Away from the high-energy trough toward the shoreline to the south, thin arenaceous grainstone/packstone and fossiliferous sandstone were deposited, onlapping the Heebner deltas. Away from the trough on the shelf to the north, normal marine phylloidal mound and lagoonal facies were deposited, overlying the anoxic Heebner Shale. Finally, further sea-level drop in the Heumader time caused total withdrawal of the oceanic upwelling system in the study area; and increased siliciclastic influx from the south along regressing shoreline suppressed carbonate production and formed the Heumader deltaic complex (Figs. 2, 5, 7D).

In summary, the facies tracts of the Plattsmouth lower HST and their juxtaposition were significantly influenced by the oceanic circulation pattern, which, in turn, was controlled by shelf water depth, sea-level change, and pre-existing and syndepositional topography.

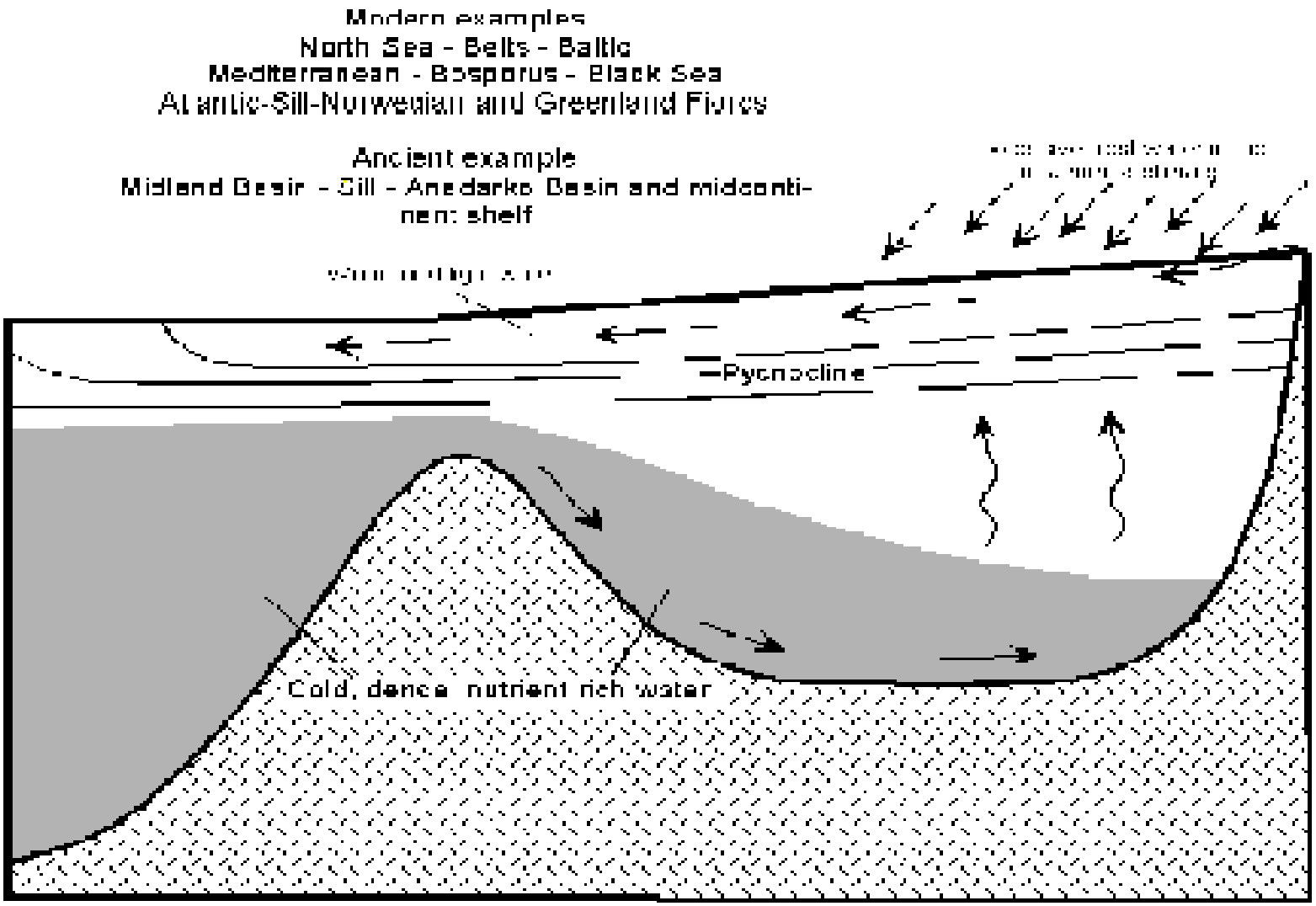

Figure 12. Estuarine circulation in basins with excess precipitation. It is characterized by upwelling and salinity stratification, hence fertility and low oxygen content. This type of circulation was proposed for the midcontinent shelf and surrounding basins by Heckel (1977). Modified from Seibold and Berger (1996).

CONCLUSIONS

The facies composition and stratigraphic architecture of the LHPH depositional sequence differ significantly between the shelf province in SE Kansas and the deltaic province in NE Oklahoma and between periods of maximum shoreline transgression and regression. The diverse styles of stratigraphic architecture break down the traditional "layer cake" Pennsylvanian stratigraphy established on the shelf and suggest complex interplay of a variety of processes controlling cyclic sedimentation.

The close juxtaposition of thin, black, fissile, organic-rich and phosphatic shale on the anoxic shelf in SE Kansas and the thick deltaic deposits in NE Oklahoma of the Heebner mcs was controlled by an oceanic upwelling system, which developed when shelf deepened during sea-level highstand. The westward-flowing strong surface and deep alongshore currents of the upwelling system hampered northward deltaic progradation and diverted it toward W-NW, and also walled off siliciclastic influx onto the shelf. Nutrient-rich upwelling bottom water increased primary production and caused anoxia on the shelf. Basin-scale westward estuarine circulation exacerbated the shelf anoxic condition. The Heebner deltas were sourced from the Ouachita Mountains to the south. A subhumid climate and renewed uplifting in the provenance generated a large sediment yield; and the large river runoff, steep piedmont gradient, and closeness of the provenance to the depositional site facilitated fast sediment delivery. As a result, multiple episodes of deltaic progradation occurred during the Heebner maximum marine flooding.

The oceanic upwelling system also greatly influenced the close juxtaposition of normal marine platform carbonate facies in SE Kansas and the arenaceous grainstone/packstone, fossiliferous sandstone, and intraclastic limestone conglomerate facies in NE Oklahoma of the Plattsmouth lower HST. The two facies tracts were separated by a narrow transition zone around the base of the underlying Heebner prodeltaic slope, where strong surface and deep alongshore currents were present. Normal marine conditions prevailed in the expanded warm water zone on the shelf when the upwelling belt withdrew basinward, where phylloidal algal mound and lagoonal carbonate facies were deposited. On the other hand, arenaceous grainstone, packstone, and equivalent calcareous sandstone were deposited in the nearshore region to the south, onlapping the Heebner deltas.

The complex stratigraphic architecture of the LHPH sequence was controlled by the interplay of eustasy, oceanic circulation, depositional topography, coastline morphology, and the climate, location, and tectonic movement of the Ouachita provenance.

ACKNOWLEDGMENTS

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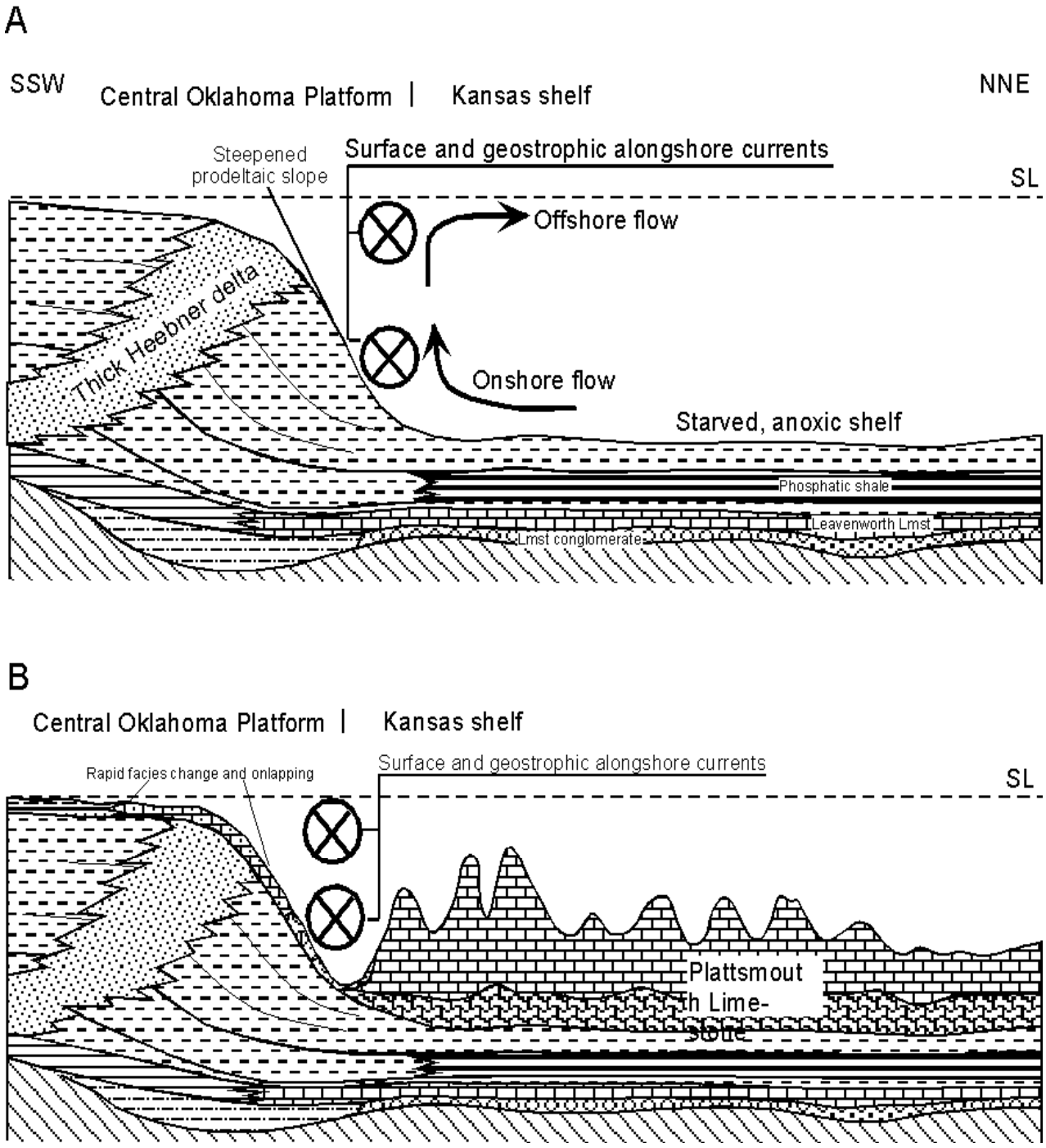

Figure 13. Process-response models showing (A) surface and deep geostrophic alongshore currents associated with an upwelling center, which may have walled off offshore transport of Heebner prodeltaic mud and diverted delta progradation toward the Anadarko Basin to the west. The effect was aided by strong onshore bottom flow. As a result, the prodeltaic slope was steepened and the shelf was starved and anoxic. (B) Surface and geostrophic alongshore currents that may have walled off offshore transport of fine-grained siliciclastic sediments during carbonate deposition of the Plattsmouth lower HST in the inshore warm water on the Kansas shelf. As a result, the carbonate shelf was not contaminated by siliciclastic sediments. The upwelling center retreated basinward outside of the study area. But strong alongshore currents were still present and deposited coarse mixed carbonate and siliciclastic sediments in and around the topographic low. Both models are based on the modern upwelling system on the NW African shelf (Smith, 1983).

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A vast amount of proprietary information has been donated to the Kansas Geological Society Library and the Kansas Geological Foundation and is being processed.

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Much of the Imperial Oil core hole program of 150 wells, some of which were drilled to 3,000 feet, has been saved. This is due to the help of Bob Williams, Ken LeBlanc, Terry McLeod and Gordon Keen (deceased).

Don Strong and Jay McNeil have helped to preserve the Roxanna Oil core drill program. Mike Bryan has donated electric logs in both Eastern and Western Kansas that has greatly enhanced the volume of logs that are available. The list of electric log core holes available will be listed in the library.

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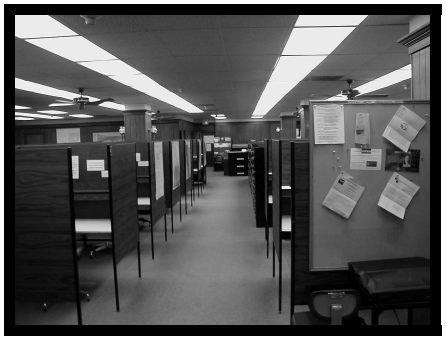

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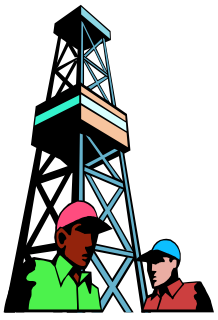

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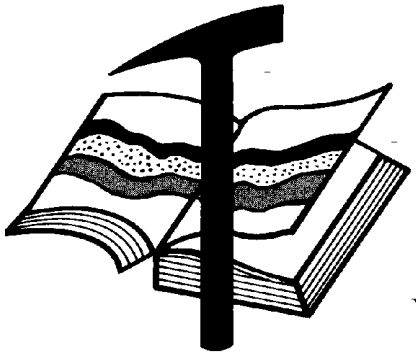

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MEMBER PROFILE: George McNeish

It is a very pleasurable experience to write a profile on one of the Kansas Geological Society's most distinguished members residing outside of the immediate Wichita area. George has had a very outstanding career both in and outside the profession.

His story commences and ends in Winfield where, with the exception of college and military service, he has resided his entire lifetime. He was born in Winfield on December of 1928. His father George T. McNeish was an attorney and his mother was a first grade teacher, vocalist and homemaker. His sister Marilyn Elliot passed away about a year ago.

All of George's early schooling occurred in the public schools of Winfield, including Winfield High School where he graduated in 1947. His activities professionally and outside the profession commenced at the University of Kansas.

George played oboe and alto sax in the band and was a member of Phi Mu Alpha Sinfonia, a fraternity for those involved in music. Professionally he held offices in Theta Tau, engineering fraternity and was Business Manager of the Kansas Engineer magazine. While at KU, his fraternity made him quit his job as bus boy in his senior year after he was elected president of the fraternity. George graduated from the University of Kansas in 1951 with a BS degree in Geological Engineering. In 1991 George received an Honorary Doctorate from Southwestern College where he served on the Board of Trustees for 28 years which included a five month stint in 1984 as Chief Executive Officer of the College while they were searching for a new President.

Following graduation, he was inducted into the Army of the United States in July 1951. His tour of duty included service with the 8th Army Quartermaster Corp in Korea, from January 1952 until May 1953. He received the Bronze Star award from General Van Fleet in 1953.

In June of 1954, George married Marilyn Lucile Powers. Marilyn and George have four children: Greg who resides in Bakersfield, California and is a chemical engineer working for AERA Oil. Co.; Jerry in Salvages, Nevada, a hydrologist invoked with the Yucca Mountain Disposal site.: Tom who owns Skyerock, an internet company in Winfield; and Marya who lives in Durham, North Carolina and works in the not-for-profit area of mental health.

George's father and three others had formed Watson Drilling Company which was active in Oklahoma and central Kansas. Following his discharge, George joined the company. He was also a partner in McNeish and Gralapp. He would classify Ben Gralapp as the biggest character he has encountered in the "oil business". Since 1958 he has owned and operated McNeish

Oil Operations which has been active in exploration, development and production in the Mid Continent area.

Besides his longtime membership in the Kansas Geological Society, George is a member of several other professional organizations including AAPG, KIOGA, and the Society of Independent Professional Earth Scientists. His service to his community has been outstanding. He has been a Winfield City Commissioner and served as Mayor twice. George initiated the building of Cumbernauld Village in Winfield a non-profit retirement center of garden homes, apartments, and health care facilities. He has served on numerous boards: Community Chest/United Way, Bi-State Mental Health, Salvation Army, Chamber of Commerce, Cowley County Historical Society, and Winfield Community Theater. He has received awards from several of these organizations for his service to them. In addition he has been involved with the YMCA of the Rockies in Estes Park, Colorado where he and Marilyn spend a portion of their time. Outside of the "oil industry" he has been involved with other businesses as well. He served on the Gott Corp. Board, Kerr's Inc. Board and the State Bank Board of Directors. In 1987, he constructed and opened 800 Main Place, a mini-mall in downtown Winfield.

George has also been very active in the United Methodist Church and has served on many committees and in other capacities.

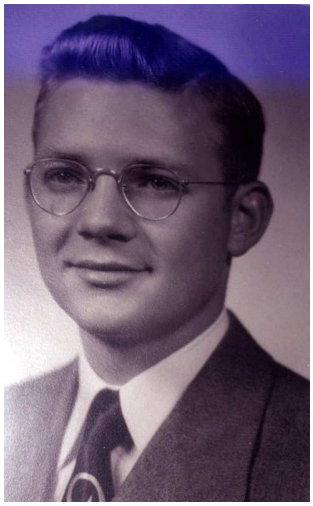
Looking back on his career as a geologist in the oil industry, he has found it both interesting and rewarding. If he had it to do over he would still be a petroleum geologist. One interesting experience was being thrown in the reserve pit by Don Reynolds.

Besides the aforementioned Ben Gralapp, he met other characters including an oil man by the name of Craig Morris who ended up dying in prison.

George continues to operate wells and doesn't plan to retire. In recent years he has taken interests with George Jones, a Wichita oilman, in coalbed methane prospects.

Recreational interests are about as varied as his civic and business activities. He started playing in the Winfield Municipal Band while still in High School and continued this activity until 2004 when he retired. He and Marilyn both enjoy travel, and among the many places to which they have traveled is the Scottish village of Cumbernauld, ancestral home of some of George's relatives. They have also traveled to China, Australia and Russia. They plan to continue their travel activities.

Not many of us have contributed as much to society as a whole while still staying active in our chosen field.



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WELCOME TO OUR NEWEST MEMBERS...

Jay Ablah

Jay is the owner of Noble Petroleum and Energy Partners. Jay has been in the oil business for 22 years.

Thomas Farrell

Thomas is a Geologist for RDH Enterprises, Inc. in Oklahoma City. He holds a BS in Geological Engineering and a Masters Degree in Geology, both of which he attained from Saint Louis University. Thomas is a member of AAPG, SPE and OKC Geological Society.

Dale Hauck

Dale is retired from Texaco where he was their exploration expert. He holds a BA in Geology from University of Minnesota. Dale is a member of AAPG.

Jeffrey Johnson

Jeffrey is the Vice President and Regional Manager for Olsson Associates in Lincoln, NE. He holds a Doctorate in Geology from the University of Nebraska-Lincoln. Jeffrey is a member of GSA, AIPG, NGWA.

Ned Marks

Ned is the owner and head Geologist at Terrane Resources Company. He holds a BS in Geology from Fort Hays State University.

Mark Newman

Mark is the Project Geologist for Vincent Oil Corporation in Wichita. He holds a BS in Geology from WSU. Mark is a member of AAPL.

Tim Priest

Tim is a consultant living in Wichita. He holds a MS in Geology from WSU. Tim is a member of AAPG.

Starr Scholbohm

Starr is a self-employed geologist living in New Hampshire. He holds a BA in Economics from Ohio Wesleyan University, a MBA from Harvard Business School and a Ph.D. from New York University.

AAPG ANNUAL MEETING - HOUSTON, TEXAS

The annual meeting was held from April 9 thru April 12 at the George Brown Convention Center in Houston, Texas. Over 8200 registrants attended it.

On Sunday the House of Delegates had a lively debate as to whether there should be two Vice-Presidents on the Executive Committee, one to work with the domestic sections and the other to represent the international regions. The proposal receive an overwhelming positive vote and the mechanism for the creation of the new Vice-President was put in place, Marty Hewitt of Calgary, Canada was elected to the post of House of Delegates Chairman-Elect and Jeanne Mallick of Houston was elected to the position of Secretary/Editor. The Kansas Geological Society was represented by delegates; Ernie Morrison, Alan DeGood and Bob Cowdery.

Members of the Kansas Geological Society attending this Annual Meeting included: President of the KGS, Charles Brewer, Alan DeGood, Dave Barker, Ernie Morrison, Ken Dean, Matt Totten, Mary Hubbard, Lynn Watney and Marty Dubois.

KGS manager, Rebecca Radford manned the KGS booth which was located in the vicinity of the AAPG Center, She received considerable assistance from President Brewer.

Due to a scheduling conflict, President of the AAPG Mid-Continent Section, Alan DeGood was unable to attend the Section's meeting on Tuesday morning. The KGS was represented at that meeting by President Brewer and Ernie Morrison, General Chairman of the Mid-Continent Section meeting to be held in Wichita in September, 2007.

By Bob Cowdery

Tales From The Doghouse

The response to the idea for a new bulletin feature titled "Tales From the Doghouse" has been under whelming. As a result, the following excerpt is borrowed from an old book that deals with the oil patch. I hope it is interesting enough to generate some local tales. Please contact Kimberly or me if you have any good stories to share for future issues. If necessary, the next issue will borrow from the same book and tell, as Paul Harvey says, "the rest of the story" about the Drake well at Titusville.

The following piece refers to oil observed in wells drilled for salt water (for the salt) on the Allegheny River near the town of Tarentum, twenty miles above Pittsburg. These oil shows had been noted as early as 1809. From, "Sketches in Crude-Oil", self published by the author, John J. McLaurin in 1896…..

"He thought the Donnelly well, which produced salt-water only, if enlarged and pumped vigorously, would produce oil. Humes received twenty-thousand dollars for his farm. The hole was reamed out and yielded five barrels of petroleum a day. This was in 1856. A specimen sent to Baltimore was used successfully in oiling wool at the carding-mills and the total production was sent to that city for eight years. Eastern capitalists bought the farm and well in 1864, organized "The Tarentum Salt and Oil Company" and determined to dig a shaft down to the source of supply! The wells were four-hundred to five-hundred feet deep. The officers of the company argued that it was feasible to reach that far into the bowels of the earth with pick and shovel and discover a monstrous cave of brine and oil! They picked a spot twenty rods from the Donnelly well, sent to England for skilled miners and started a shaft about eight feet square. Over two years were employed and forty thousand dollars spent in sinking this shaft. Heavy timbers walled the upper portion, the hard rock below needing none. The water was pumped through iron pipes, nine men formed each shift and the work proceeded merrily to the depth of four-hundred feet. Then the salt-water in the Donnelly well was affected by the fresh-water in the shaft, losing half its strength whenever the latter was let stand a few hours, showing their intimate connection by veins or crevices.

Mr. Peterson said of it: "The digging of the shaft was finally abandoned in the darkest period of the war, from the necessities of time. A New Yorker named Ferris, and Wm. McKeown, of Pittsburg, bought the property, shaft and all. The daring piece of engineering was neglected and finally commenced to fill up with cinders and dirt, until at last it was level again with the surface of the ground. You may walk over it to-day and I could point it out to you if I was up there. Dig it out and you will find those iron pipes and timbers still there, just as they were originally put in."

Dyed-in-the-wool Tarentumites insist that natural gas caused the suspension of work, flowing into the shaft at such a gait that the miners refused to risk the chances of a speedy trip to Kingdom Come by suffocation or the ignition of the subtile vapor."…..

I think it is worth noting that shortly after 1800, wells were being drilled to six or eight hundred feet deep for brine and the oil sold for lubrication, medicinal purposes and occasionally fuel. In 1862, 400,000 gallons were sold in New York at a price of 36 cents per gallon (that's a price of $15. 27 per barrel). It is also worth noting that these folks had a good understanding of fracture permeability….and that, even then, the locals knew a good show hole when they saw one!

Hope you enjoyed it!
Bob Stolzle

To submit your own "tale",
please contact Bob Stolzle at (316) 794-3443
Or
Kimberly Dimmick-Wells (316) 650-4514 or kdw11@cox.

Memorial: John Benard Mullen

John Benard Mullen was born July 20, 1916, in Toledo, Ohio. He was the son of William and Helen Mullen. Jon had 3 sisters and 2 brothers, older sister, Lil, older brother, Bill, younger sisters, Jean and Helen, and younger brother, Jerry. John's father worked for National Supply in Toledo and was transferred to Ft. Worth, TX around 1919-1920. John often spoke of how his family came from an Irish community in Toledo where a lot of the times they only spoke the Irish Brogue. John's grandmother was upset when William told her they were moving to Ft. Worth. She said, "all they have down there is cowboys and Indians." William promised he would return to Toledo every summer on his vacation, and they did. John grew up in Ft. Worth where he attended grade school and Polly Technical High School, which later was renamed Pascal. He attended Texas Christian University in the late 1930's. At TCU John played football as a freshman. He often spoke about how they had to scrimmage the varsity football team. This varsity football team included the All-American, Sammy Baugh and the fourth Heisman Trophy winner, Davey O'Brian. As you may know, the best quarterback in the nation receives the Davey O'Brian award trophy.

World War II came along, and John enlisted in the army and became part of the 36th Division, Texas T Patchers. While in the army, John was a mail clerk, medic, and often had to drive the company jeep. John's fist destination was N. Africa where he spent several months and then was sent on to the invasion of Scelerno. Fortunately, John did not have to go on the initial invasion of Scelerno, but went later that afternoon. He said one of the most memorable moments he had was when the allies freed Rome and he was able to drive the jeep down the streets of Rome with his company. He said the Italians were cheering and seemed to be very grateful and happy. John also heard that they might be able to see the Pope. Jon, being Roman Catholic, bought some rosaries and was standing in line to see the Pope, and it just so happened that the Pope came right by John and blessed his rosaries.

A few months later, John's outfit was sent to southern France. He was driving his commanding officer in a jeep and approached a bridge crossing a deep ravine. John said a lot of times, he had to pump the brakes of the jeep to stop it. Well, it just so happened that a bomb had hit the middle of the bridge leaving a big hole in the middle. John tried to stop the jeep but couldn't. He swerved to the left hitting the railing. The commanding officer was able to jump onto the bridge, but John and the jeep went over the edge. Fortunately, a tree caught John and the jeep fell on through. His commanding officer witnessed all of this and wrote a letter to John telling him what had happened. John suffered a broken leg, ribs, and a concussion thus ending his military career. So, he was able to return home. This was approximately late 1944.

After the war, John returned to Ft. Worth and met and married his wife, Mable, June 1948. Mable had a son named Charles, and John took him in as his own. John returned to TCU and graduated with his degree in geology. Soon after graduation, he and Mable had their son, Jerry Lee, June 30, 1950.

John began his geological career testing samples with Core Laboratory in West Texas. He then heard about a job with Stanolind Oil in Oklahoma City. He took this job and moved to Oklahoma City where he lived until 1956. During this time, John's third son, William Kirk was born, December 30, 1952. In 1956, John was offered another job back in Ft. Worth with Champlin Oil. So John accepted this job and moved his family back to Ft. Worth. While at Champlin, John worked Kansas geology. He lived in Fr. Worth for 10 years and in 1966, Champlin transferred John to Wichita. John worked for Champlin in Wichita until 1970. At that time Champlin closed their office and transferred John back to Oklahoma City. John worked for Champlin 2 more years in Oklahoma City, and in 1972 he took early retirement and started working independently. John decided to move back to Kansas, and during this time, he acquired from Champlin some Kansas scout cards and geological logs and donated them to the Kansas Geological Society. He was always proud of the KGS. John was then offered a job for Clinton oil of which later became Energy Reserve Group. In the mid to late 1980's, Energy Reserve Group became B. H.P. Petroleum. John retired from B.H.P. around 1988 to 1990 and continued to work independently for about 4-5 years. John was very proud of his geological profession. He often spoke on how lucky he was to be a geologist and to be doing a job that he really loved to do.

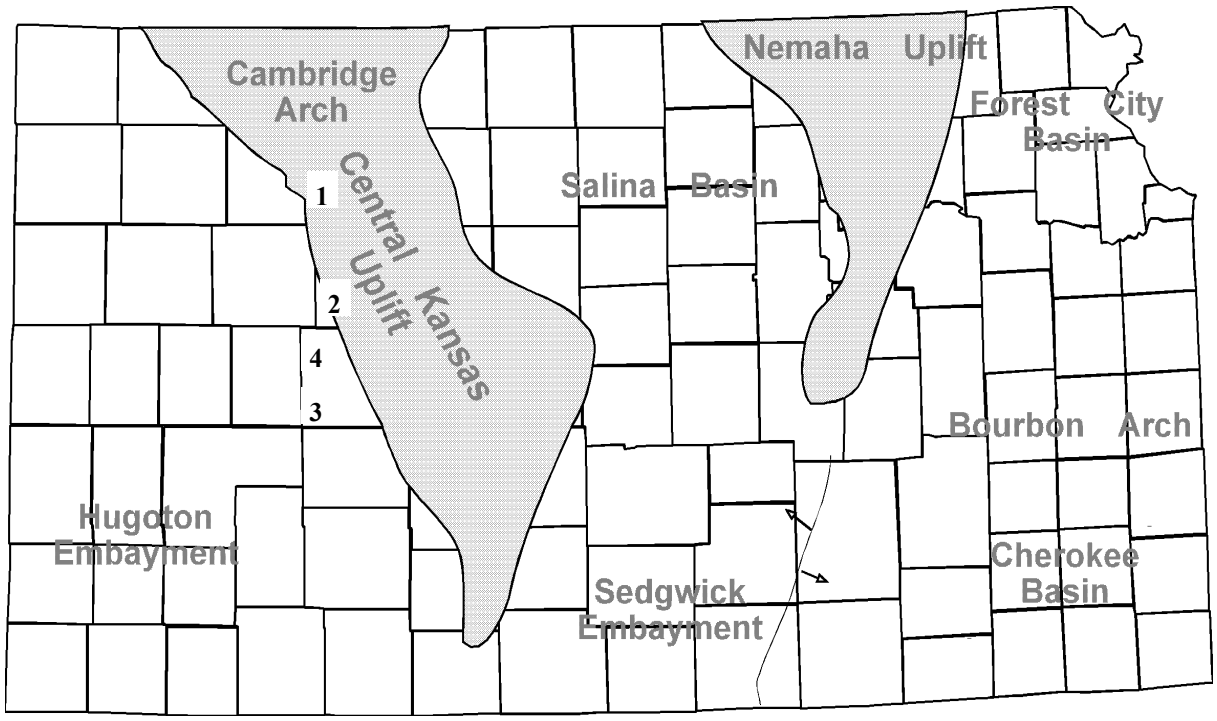
John was from the Golden Age of America. He was a WW II Veteran, and was truly the most honest man anyone could ever know. John donated his life to his family, his county, and his profession. John dided of alzheimers, February 15, 2006. The world truly lost a great man….. *By Jerry L. Mullen*

KGF MEMORIALS

Name	Dc'd Dte	M'l Est.	Name	Dc'd Dte	M'l Est.
Dan Bowles	09/89	1990	Donald L. Hellar	11/98	1998
John Brewer	10/89	1990	Joseph E. Rakaskas	01/99	1999
George Bruce	08/89	1990	Charles W. Steincamp	02/99	1999
Robert Gebhart	01/90	1990	Robert and Betty Glover	10/96	1998
Ray Anderson, Jr.	11/90	1990	Howard E. Schwerdtfeger	11/98	1999
Harold McNeil	03/91	1991	W. W. "Brick" Wakefield	03/99	1999
Millard W. Smith	08/91	1991	V. Richard Hoover	01/00	2000
Clinton Engstrand	09/91	1991	Warren E. Tomlinson	01/00	2000
M.F. "Ted" Bear	10/91	1991	James A. Morris	01/00	2000
James & Kathryn Gould	11/91	1991	Eric H. Jager	03/00	2000
E. Gail Carpenter	06/91	1993	Kenneth W. Johnson	03/00	2000
Benton Brooks	09/92	1992	Dean C. Schaake	03/00	2000
Robert C. Armstrong	01/93	1993	Fred S. Lillibridge	05/00	2000
Nancy Lorenz	02/93	1993	Jerry A. Langrehr	07/00	2000
Norman R. Stewart	07/93	1993	Clark A. Roach	07/00	2000
Robert W. Watchous	12/93	1993	Floyd W. “Bud” Mallonee	10/00	2000
J. George Klein	07/94	1994	Ralph W. Ruuwe	09/00	2000
Harold C.J. Terhune	01/95	1995	Robert L. Slamal	02/01	2001
Carl Todd	01/95	1995	Jerold E. Jesperson	06/01	2001
Don R. Pate	03/95	1995	William A. Sladek	06/01	2001
R. James Gear	05/95	1995	Harlan B. Dixon	06/01	2001
Vernon Hess	06/95	1995	Edward B. Donnelly	08/01	2001
E. K. Edmiston	06/95	1995	Richard P. Nixon	02/02	2002
Jack Rine	07/95	1995	Robert W. Frensley	12/01	2002
Lee Cornell	08/95	1995	Gerald W. Zorger	01/02	2002
John Graves	10/95	1995	Don L. Calvin	03/02	2002
Wilson Rains	10/95	1995	Claud Sheats	02/02	2002
Heber Beardmore, Jr.	09/96	1996	Merle Britting		2002
Elmer "Lucky" Opfer	12/96	1996	Harold Trapp	11/02	2002
Raymond M. Goodin	01/97	1997	Donald M. Brown	11/02	2003
Donald F. Moore	10/92	1997	Elwyn Nagel	03/03	2003
Gerald J. Kathol	03/97	1997	Robert Noll	09/03	2003
James D. Davies	08/88	1997	Benny Singleton	09/03	2003
R. Kenneth Smith	04/97	1997	Jay Dirks		2003
Robert L. Dilts	05/97	1997	J. Mark Richardson	02/04	2004
Delmer L. Powers	06/72	1997	John “Jack” Barwick	02/01	2004
Gene Falkowski	11/97	1997	Richard Roby	03/04	2004
Arthur (Bill) Jacques	1/98	1998	Ruth Bell Steinberg		2004
Bus Woods	1/98	1998	Gordon Keen	03/04	2004
Frank M. Brooks	03/98	1998	Lloyd Tarrant	05/04	2004
Robert F. Walters	04/98	1998	Robert J. “Rob” Dietterich	08/96	2004
Stephen Powell	04/98	1998	Mervyn Mace	12/04	2004
Deane Jirrels	05/98	1998	Donald Hoy Smith	03/05	2005
William G. Iversen	07/98	1998	Richard M. Foley	06/05	2005
Ann E. Watchous	08/98	1998	Wayne Brinegar	06/05	2005
W.R. "Bill" Murfin	09/98	1998			

EXPLORATION HIGHLIGHTS

By John H. Morrison, III
Independent Oil and Gas Service



(1) Castle Resources Completes Wildcat Producer - Castle Resources, of Schoenchen (KS), has completed a wildcat producer to establish a new unnamed oil field seven and one-quarter miles south and one and one-half miles west of the town of Studley in Sheridan County. The Alvin #1, located in the NW/4 of section 26- T9s- R26W, is on pump making 15 barrels of oil per day from undisclosed perforations in the Lansing-Kansas City formation. The estimated 4150 ft. deep well was drilled at site located three-quarters mile southwest of LKC production in the Elper Field. Anderson Drilling tools were used to drill the well.

(2) Downing-Nelson Oil Finds New Pay Near Trego County Field - Downing-Nelson Oil Company, of Hays (KS), has discovered Arbuckle oil reserves at a structurally isolated site five-eighths mile northeast of known Cherokee and Basal Conglomerate oil production in the Sunny Slope Northeast Field. New Trego County discovery was made at the Stalnaker #1-15, spotted in the NW/4 of section 15- T14s-R 21W, about six and one-quarter miles south and four and one-half miles west of Ellis, KS. Production perfs are not available. The well was drilled to a total depth of 4006 ft. by Discovery drilling tools. Closest known Arbuckle production in the area lies over one and one-quarter miles away in the Madden Field in section 17.

(3) BlueRidge Petroleum Has Discovery - Blueridge Petroleum Corporation, of Enid, Oklahoma, is producing 50 barrels of oil and 20 barrels of water per day at the Antenen #1-11, spotted in approximately NE NE NW in section 11- T19s- R26W.

The wildcat well is producing crude from eleven feet of open hole in the Mississippian formation from 4540 to 4551 ft. Production comes natural without acid stimulation. Crude was measured at 36 degrees gravity. James C. Musgrove supervised the well and called the log top of the Mississippian at 4538 (-1943 KB). Forrest Energy served as contractor. The new unnamed oilfield lies three-quarters mile north of the Mississippian oil producing WCV Northwest Field, about one and one-half miles south and five and three-quarters miles west of Laird, Kansas.

(4) Palomino Petroleum Opens New Field - Palomino Petroleum, Inc., of Newton, Kansas, has successfully completed the Webster #2 for 32 barrels of oil and 96 barrels of water per day to open a new unnamed field located about two miles southwest of the town of Arnold, Kansas. The Webster #2, located in approximately NE SE SW in section 34- T16s- R25W, is producing crude from Mississippian perforations shot at four holes per foot from 4490 to 4494 ft. First production was established on February 23, 2006. Warren Drilling tools were used to drill the well to a rotary total depth of 4,550 ft. The new oilfield lies three-quarters mile southeast of closest production in the Arnold Field (Marmaton and Mississippian oil).

The KGS Library
Will Be Closed
On
Monday, May 29th
For
Memorial Day

Book Review

The Kansas Guidebook

This 407 page book by Marci Penner divides Kansas into 6 areas of interest. The attractions in each county and city/town are described. This includes museums, nature centers, state parks, historic oil well sites etc. A description of cafes in the towns, and cities are also described. The book was published in 2005 and may be found at most bookstores. The cost is $24.95

(This book is the 3rd largest seller at Watermark bookstore)

El Dorado – Legacy of an Oil Boom

This 127-page book by Dr. Jay Price, Wichita State University, traces the development of the El Dorado/Oil Hill area by the use of pictures with descriptions. Individuals prominent in the beginning and development of the "oil industry" in Kansas and elsewhere are also depicted This book published by Arcadia Publications sells for $19.99 and is available at Watermark Books and elsewhere.

By Bob Cowdery

GUIDELINES FOR MANUSCRIPT SUBMISSION TO KGS BULLETIN

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- title should be in capital letters and centered. All first-order headings (e.g., INTRODUCTION, PURPOSE OF STUDY) should be centered and fully capitalized; second-order headings also should be centered, but only the first letter of each word should be capitalized (e.g., Previous Studies);
- manuscripts need not include an ABSTRACT, but must include INTRODUCTION and CONCLUSIONS sections;
- in referring to figures outside of parentheses in the text, use the full word – e.g*., Figure 1*. In referring to figures within parentheses in the text, abbreviate the word – *(Fig. 1; Figs. 1 & 2)*;. Figure captions must be included with manuscripts and be on a page separate from actual figures. They should be written as, for example*: FIG. 1. Location of study area in…*
- text reference to published papers should be abbreviated as: (i) two authors -- *Smith & Jones (1969*) *or (Smith & Jones 1969)*; and (ii) more than two authors – *Smith et al. (1969)* or *(Smith et al. 1969*). In the text and REFERENCES section, cite references in terms of date from oldest to youngest. In a REFERENCES section, follow citation style as in published articles in the Bulletin. Full references must be cited, including authors' names with initials only, date of publication, title of paper, where the paper was published (e.g., *AAPG Bull*.), volume number, and pages;
- prepare figures or tables so that all lettering is legible if the figure or table is reduced; avoid "crowded" figures/tables. Put each figure/table on a separate page and include the figure/table number in the upper-right corner of that page.
- interesting black & white images from your paper or study area that can be used for the hard-copy cover of the Bulletin, and the same image but in color for the digital version, are encouraged.

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KGS BULLETIN
May-June 2006

May 2006

***See page 4 for detailed information on all Tech Talks**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4 Tech Talk Dr. Lynn Watney	5 KGS Fishing Tournament	6
7	8	9 KGS Board Meeting	10	11 Tech Talk Bob Westermark	12	13
14	15	16	17 KGF Spring Mixer	18 Tech Talk Dr. David Wald	19	20
21	22	23	24	25 Exploration Seminar: 1-5pm , @ KGS	26	27
28	29 Memorial Day Library Closed	30	31			

June 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12 KGS Golf Tournament	13 KGS Board Meeting	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	