



KANSAS GEOLOGICAL SOCIETY

BULLETIN

Volume 84 Number 2

March — April 2009

IN THIS ISSUE

Member Profile:
Bill Romig

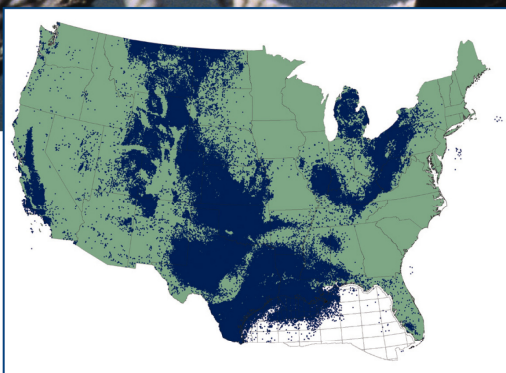
*Layton Sand Production at School
Creek North Oil Field*

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ON THE COVER:

Pennsylvanian Collings Ranch Conglomerate exposed along Interstate 35 just southwest of Davis, Oklahoma. The conglomerate was deposited in grabens developed within the folded and faulted rocks of the Arbuckle Mountains.

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>

SOCIETY Technical Meetings

SPRING 2009

March 3—Matt Brueseke, Kansas State University— “Volcanology”

March 17—Mike Everhart— “The Making of National Geographic’s Sea Monsters”

March 24—Brian Wilhite— “The Cowley Problem in Kansas—A Mystery Solved”

April 7—Dr. Craig Marshall, KU—”Hydrocarbon Potential from Oil Shales”

April 21—Mike Smith, Weather Data, Inc.—”The Truth About Global Warming”

April 28—James Puckette’s Oklahoma State, student presentations “Oilfields”

May 5— Dr. Raef— “CO2 Sequestration & Production Enhancement in KS”

May 19—John Lorenz, President-Elect, AAPG

May 26— Dr. George Clark, Kansas State University

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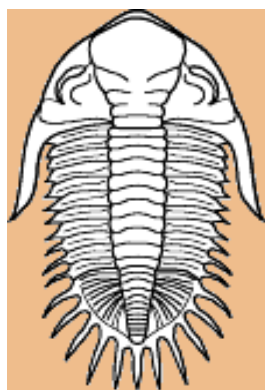
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*Bulletin committee members and PhD's in
Paleontology are prohibited from entering.*



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OCTOBER 11-13, 2009

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Registration opens **July 1, 2009!**

Presented by the Tulsa Geological Society

President's Letter

Dear Members;

Rural Kansas is unmatched with its subtle rural landscape and spectacular sunsets. Ranches and farms, windmills, oil wells, and the ubiquitous barbwire fence are signs of the long-standing partnerships in the use of its land and resources. More importantly, this cooperative environment reflects well on the resourcefulness of its people and working toward the common good. Over 11,000 Kansas citizens work in the petroleum industry. The industry, including many out of state companies operates over 2 million acres of leased ground in all corners of Kansas. According to a recent press release from the Kansas Geological Survey, the value of natural gas produced in Kansas in 2008 is \$3.02 billion and that of crude oil at \$3.52 billion. Together their value exceeds receipts for all crops. These figures attest to the continuing major contribution of the petroleum industry in Kansas' economy through tax revenues to counties and state, royalties, salaries, and commerce that is generated.



The steady decline in oil production that occurred between early 1990's up to 2000 was reversed, in part due to price (under \$25 to 2004), but also the renewed activity due to infusion of new ideas and technologies. New production was realized statewide in old producing areas as well as relatively new ones. Gas prices rose 2000 into 2008 and notably reduced the production decline that began in earnest in 1996. Notable new gas is being produced from old areas including over 41 BCF from coal bed methane in SE Kansas, now representing over 11% of Kansas gas production. All of this exploration and development occurred with dry hole percentages at an all time low, around 17%! All I can say is congratulations on all the success! I am quite certain, as anyone can be in the current financial times, that economic recovery in Kansas will happen first in the oil patch.

Latest activity in the Kansas Geological Society Library, including phone orders, personal visits, and online, indicates business is steady. Attendance at the weekly technical meetings has averaged around 70 and above historical levels, so that speakers, audience, and organizer Bob Cowdery need to be congratulated! This reflects a membership that has not lost focus or enthusiasm in the hunt for new hydrocarbons in spite of the financial downturn.

Other KGS activities on the immediate horizon will create additional learning opportunities. A two-day joint field trip with the Oklahoma City Geological Society is slated for April 18 and 19th to visit surface exposures of the Chase Group strata in southern Kansas and northern Oklahoma. This spring field trip will be led by Sal Mazzullo at WSU and Jim Chaplin at the Oklahoma Geological Survey. While based on a very successful field trip led by them in the past, new guidebook materials are being prepared. See more details in this newsletter and sign up!

The Kansas Geological Society is kicking off the **Bob Slamal Memorial Kansas Digital Type Log Project** in cooperation with the Kansas Geological Survey. Although only announced at the technical sessions held since January '09, 15 members have volunteered to help in this year-long effort to identify the shallowest and deepest, and best documented wells in Kansas that are accompanied by modern wireline log suites (including las format if at all possible). A CD will be produced to replace the 1966 type log volumes allowing viewing and downloading of logs and stratigraphic tops for use in your software applications. An interactive website is also being developed by the Survey to access these logs to create cross sections with control of datum, scale, intervals displayed, and stratigraphic annotation.

The digital type log project will be industry-driven to provide the most useful wells in critical locations, in addition to covering every county in Kansas. Core descriptions, tests, publications, and other information such as seismic information will be sought, as available, to document wells selected for the project. Last but not least, the objective is to be inclusive in our resources – petroleum, water, coal, environmental sensitive areas, mining and metals. Thus shallow aquifers as well as the deep and unusual. Color log imaging of lithology, porosity, and other attributes will quickly convey the petrophysical and stratigraphic distribution of the Kansas subsurface. For those wishing to participate or receive further information, please contact me at lwatney@kgs.ku.edu or John Doveton, doveton@kgs.ku.edu.

The Kansas Geological Society has benefited extraordinarily from donations of time and data from its membership since its inception in 1923, making it a premier subsurface geologic data repository for Kansas. For those of us who had the pleasure to work with him, Bob Slamal set the bar for his tireless efforts on behalf of the society's library and his exuberance in utilizing

Continued on page 17

The Kansas Geological Society & The Oklahoma Geological Society

Announce

Spring Field Trip

The Chase Group (Permian & Wolfcampian)

**To Northern Oklahoma and Southern Kansas
(starting in Arkansas City, KS)**

Field Trip Leaders: Dr. S. J. "Sal" Mazzullo & Jim Chaplin

April 18th & 19th, 2009

♦ **Cost = \$130.00**

♦ **Deadline to Register—April 3rd**

♦ **Motel Reservations must be made by March 15th**

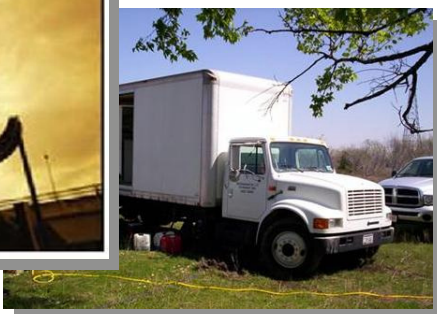
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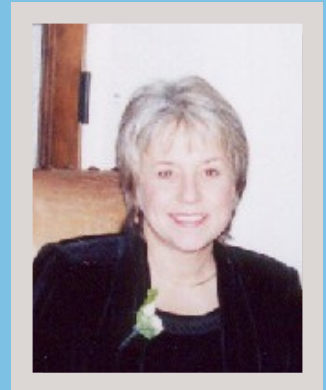
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From The Manager

Dear Members,

So far this spring we have had some excellent talks given to our Society by geology students. First we had Dr. Tony Walton's class from KU and then we had a WSU class, taught by Larry Richardson (see photo below.) These students do a remarkable job of studying their subjects and giving their presentations. We have seen an increase in geology students in the state and several of these students are getting ready graduate this spring. I know times are slow but we are hoping that changes soon and you or your companies can offer these students some positions out in industry. If you know of any work for these students, please contact me or the department chairs at the universities.



The KGS is offering a joint field trip with the Oklahoma City Geological Society April 18th & 19th. This will be on the Chase Group (see announcement on page 8 and more details on web site www.kgslibrary.com) and is being led by Sal Mazzullo and Jim Chaplin. We are limited to 10 participants for the KGS so please call or email to register as soon as possible.

The Annual Bass Fishing Tournament will be held April 24th at El Dorado Lake. See insert flyer for registration or go on-line to our web site for the registration flyer.

I want to take this opportunity to thank Doug Davis for putting on another great Banquet. Look for photos from that evening throughout this Bulletin.

Respectfully submitted,
Rebecca Radford



Larry Richardson taught a class at Wichita State this past fall semester. A few of the students presented talks to the Kansas Geological Society technical session on Feb. 3, 2009



It is always a pleasure to write the profile of someone who has been active in exploration effort in Kansas for a long period and has made a considerable contribution to that effort. Bill's story commences on February 20, 1939 at Grace Hospital in Hutchison. His father, Carlyle, was a farmer in the Haven area who also had worked for Panhandle Eastern at one time and his mother Neda Fern was a housewife. Bill has a sister Kay who is currently a secretary for a law firm in Newton and a brother Ray who is retired and resides south of Kansas City.

After attending grade school in Haven and graduating from Haven High School in 1957, Bill enrolled at Hutchison Junior College in order to play football and basketball. He graduated from Hutchison Juco in 1959 and that same year married Karen Edwards of Haven. Karen and Bill have three children: Penny who lives in Augusta, Debbie in Maize and Cindy who resides in Wichita. They have seven grandchildren and four great grandchildren.

Bill enrolled at the University of Wichita where he majored in Geology and also had a minor in Chemistry. At least in part, his selection of Geology was the result of influence by Don Hollar and Gary Edwards. While attending the University he worked as a draftsman for Don Hollar, E.K. Carey and Don Shawver. At the University, Bill believes he had excellent instruction and guidance from Drs. Blythe and Berg.

Following graduation in 1962, Bill joined O. A. Sutton Oil, where he worked until 1972. Other KGS members working at O. A. Sutton during this period included: Ed Wible, Bob Gebhart, Dick Grant, Bill Peterson, Arden Ratzlaff, Elbie McNeil and Bob Euwer. Among this group Bill was influenced by Elbie McNeil.

Bill has an amusing story to relate concerning his time employed by O. A. Sutton. It seems that while they were drilling in the Lyons West Field, that O. A. Sutton would show up at the rig on occasion. Apparently he saw an instruction "wake geologist". Bill was called into O. A.'s office and told that he was not to sleep while watching wells as that was not what he was paid to do. From then on the instruction was "notify geologist".

An interesting test that Bill recalls was in Rush County. Sutton's geologists were instructed not to penetrate over two foot of Arbuckle so they were to circulate every two feet. On this particular test, Bill circulated 24 times before he found Arbuckle.

In 1972, Bill departed from O. A. Sutton Oil and for a short period worked for Petroleum, Inc. with Jay McNeil and Kenny Johnson. Later that year, he was employed by National Oil Co. where he once again worked with Arden Ratzlaff and also Jim Simmons. In 1976, he was employed by TXO for 9 months where he worked with Bill Wells and Tom Ray.

Later in 1976, bill resumed employment with National Oil Co. and was with that company until 1982 when their assets were acquired by Mustang Oil and Gas. Bill stayed with Mustang as their only geologist until 1996 when he joined Pickrell Drilling and worked with KGS members Larry Richardson and Don Beauchamp. Since January 2008, Bill has worked part-time for Pickrell.

Bill has remained a member of both the Kansas Geological Society and the American Association of Petroleum Geologists and in 2006 served on the Board of Directors of the KGS. It is obvious that he has enjoyed his career as a petroleum geologist and leaves not any doubt that he would follow the same career path if he had it to do over. In answering the question of recommendations to a young geologist, he states emphatically that they should obtain a Master Degree before seeking employment.

Along with his part-time position with Pickrell, he plans to pursue other interests such as yard work and building and making various objects as he winds down his very successful career as an exploration geologist.

Banquet Photos



Ernie Morrison receiving his outgoing President's plaque



Dick Jordan receiving his Honorary Plaque



Past Presidents



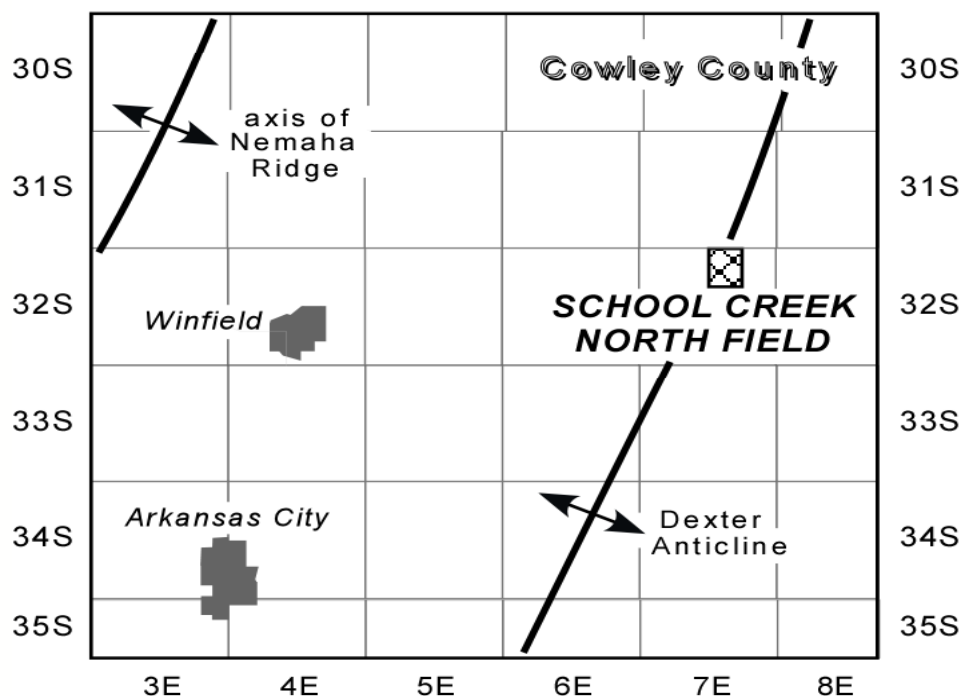
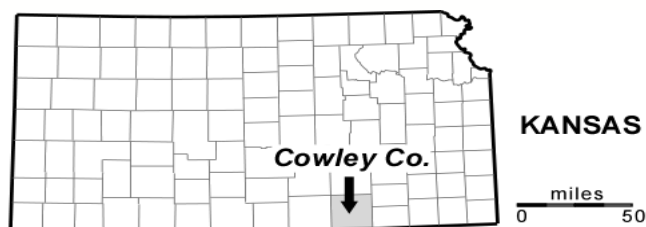
Honorary Members with newest member, Dick Jordan

Geology of Layton Sand Production at School Creek North Oil Field, Cowley County, Kansas

S. J. Mazzullo
Department of Geology
Wichita State University

DISCOVERY AND FIELD RESERVOIRS

The School Creek North oil field is located along the Dexter Anticline in T32S-R7E of Cowley County, Kansas, approximately 25 miles east of the Nemaha Ridge (Figure 1). The field was discovered in July 1953 with the successful drilling of the Ayesh & Taylor #1 Beamer well in SE SE NE Section 10 T32S-R7E (Figure 2A). The well reached total depth in the Mississippian at 2977 ft, and was completed for a reported 25 BOD and 2 MMCFG (although this gas was not sold because of the absence of a pipeline gathering system) from the Layton sand (Lansing Group), which was perforated at 2114-2200 ft. Subsequent drilling mainly by the Texas Company, and also by operators such as Temple & Roark, Petroleum Enterprises, Helmerich & Payne, Fred Ayesh, Beaumont Petroleum, Cymco Petroleum, and Petroleum Management, among others, expanded the field to 71 oil and a hand-full of oil and gas wells. Typical reported initial oil production in the earliest-drilled wells ranged from 25 BOD to 550 BOD with varying amounts of co-produced water. 25 BOD was the average for these Layton sand wells. Oil and gas production also was later established from a few wells in the deeper Cleveland (Pleasanton Group) sand,



and oil in the

Figure 1. Location of School Creek North Field in Cowley County, and pertinent structural features.

Continued on page 14



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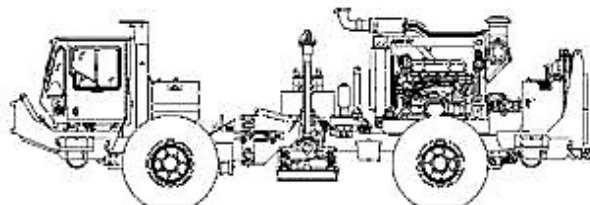
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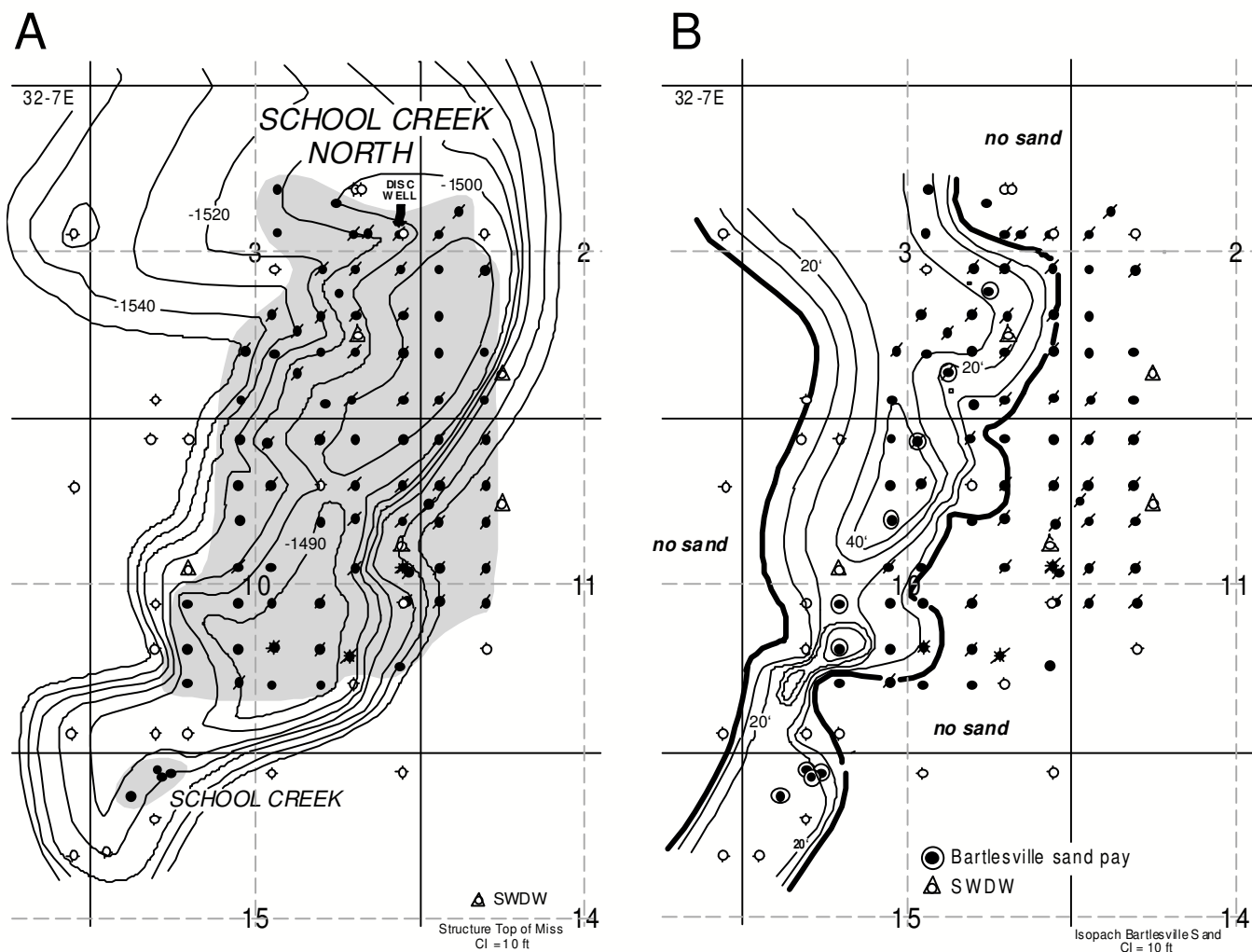


Figure 2. A) Structure top of the Miss; B) Isopach map of Bartlesville sand. CI on both maps is 10 ft.

sand, at approximate subsurface depths of 2400-2450 ft and 2800-2830 ft, respectively. A large part of the field, which has less than a dozen producing and/or shut-in wells, currently is being evaluated for bypassed oil and gas by Team Resources, for which the author is a consulting geologist. To date, the field has produced 2.98 MMBO, with most of this production being from the Layton sand.

The much smaller School Creek Field in the NW/4 of Section 15 (Figure 2A) was discovered in July 1947. The discovery well, the Mid Plains & Veeder #1 Reidy (NE NW NW), produced some oil from the Bartlesville sand at a subsurface depth of 2817 ft. Subsequent wells also produced oil from the Bartlesville, and later, from the Cleveland sand. Now abandoned, the field produced 28.5 MBO from the Bartlesville, and 14.1 MBO + 36 MMCFG from the Cleveland. Much of the gas produced here and in School Creek North field likely was used to power pumpjacks.

FIELD STRUCTURE

The foundation of the field is a NNE-trending structural high as mapped on the top of the Mississippian (Figure 2A). This feature is a buried topographic ridge (e.g., a cuesta) rather than an anticline, although overlying beds are folded anticlinally. The Bartlesville sand flanks the western side of this buried ridge, and locally produced oil from several wells along the eastern sand pinchout (Figure 2B). The structural configuration of the Layton sand is anticlinal, and is exemplified by a map on the Layton "B" sand (Figure 3A). This map shows structural drape of the sands over the Mississippian buried ridge. Hence, the present-day structure of the field likely formed in post-Layton time largely as a result of differential compaction.

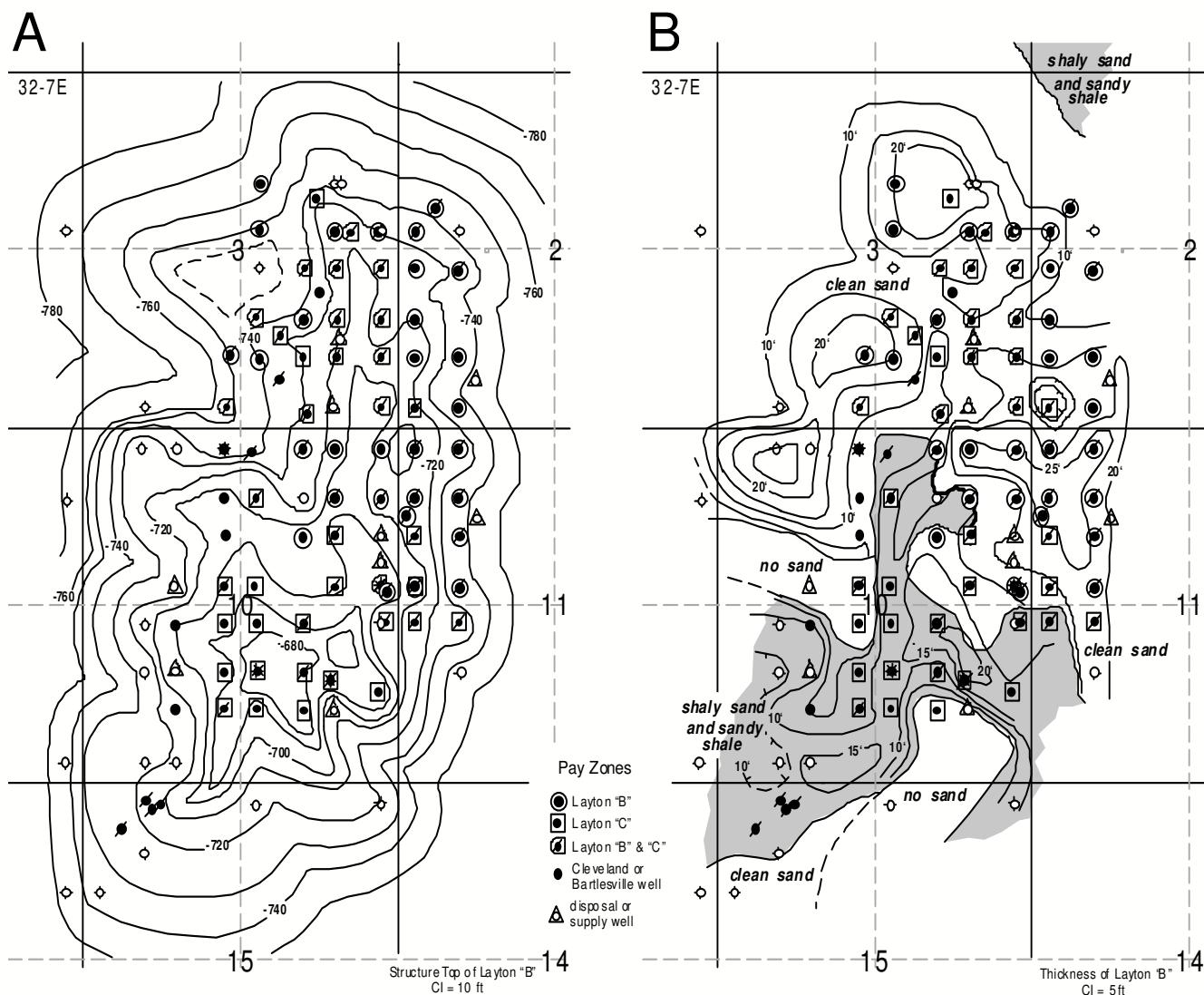


Figure 3. A) Structure top of Layton “B” sand, CI = 10 ft; B) Isopach map of Layton “B” sand (CI = 5 ft) and log-inferred lithofacies.

RESERVOIR ARCHITECTURE AND DEPOSITIONAL ENVIRONMENTS

Drilling over the years demonstrated that the Layton Sandstone in the School Creek North Field is readily subdivided into four units – from top to bottom, the Layton “A”, “B”, “C”, and “D” sands (Figure 4). These sands are present in the field and in immediately surrounding areas, but they are absent at some distance away from the field. Hence, they represent a large-scale, linear sand accumulation rather than a blanket sand. The “A” sand in the field typically is shaly and of relatively low permeability. It is present throughout the field area, where its thickness ranges from 7-23 ft, and it is not productive in the field. Where they produce oil, the “B” and “C” sands (and also the non-productive “D” sand) are clean and porous sandstones with average porosity of 15-18%. The “B” and “C” sands are the principal reservoirs in the field (Figure 3). Thickness of the “B” sand ranges from 5 ft to locally as much as 29 ft. Thickness of the “C” sand ranges from 7 ft to locally as much as 27 ft. The “D” sand is present only in a few wells in the field, and it locally reaches a thickness of 80 ft or more. All four sand units locally change facies across the field from sand to shaly sand to sandy shale (e.g., as shown in the “B” sand in Figure 3B), thus defining a lenticular micro-architecture to the four units. Erosional basal contacts of these sand units are inferred in many cases based on detailed log correlations. Accordingly, based on regional sand distribution, thickness and lateral lithologic variations, and erosional bases of the lenticular units, all four sands are interpreted to be of fluvial to proximal flood-plain (e.g., levee and crevasse splay)

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BMD #11 Beamer
10-32S-7E

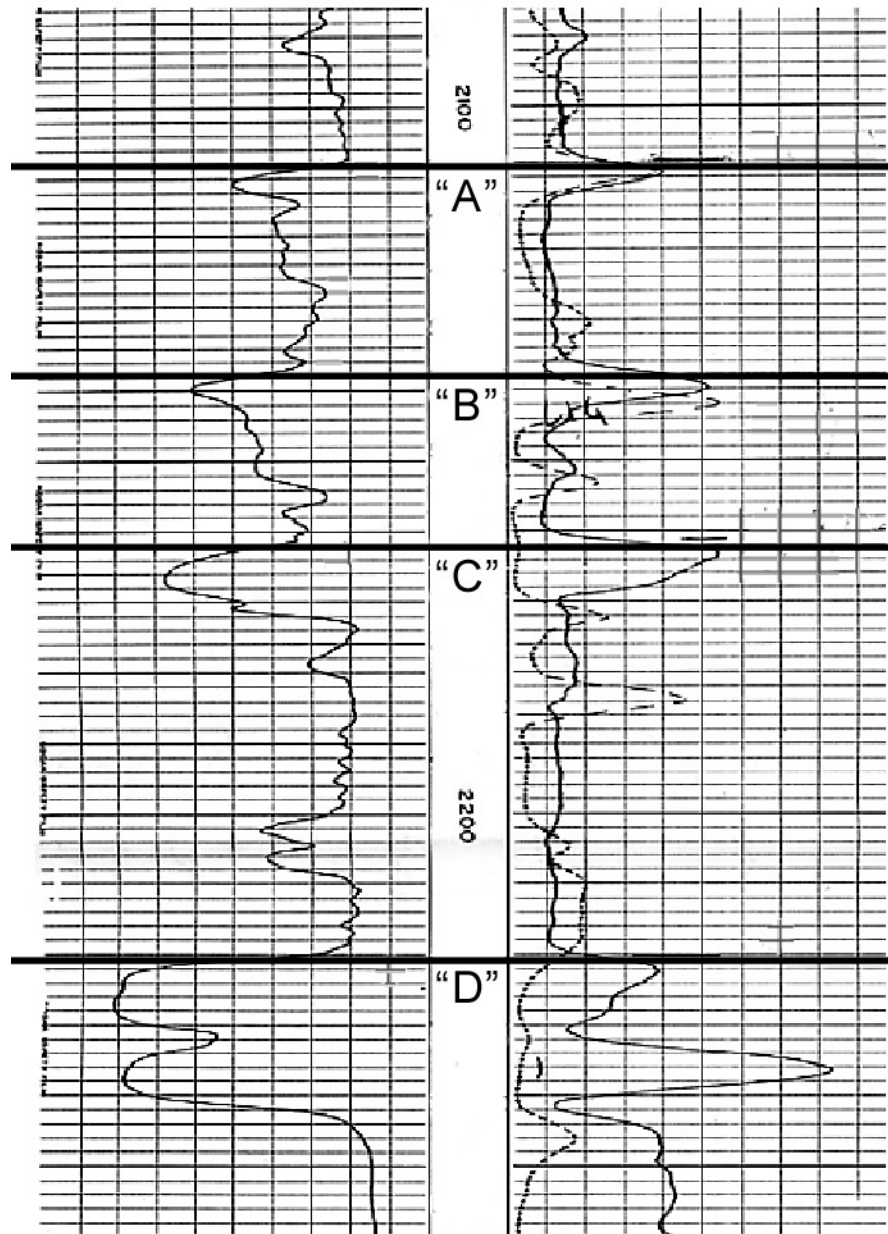


Figure 4. Type log (gamma ray-neutron) in School Creek North field showing subdivisions of the Layton sand. All units are not present everywhere in the field. This well was a dry hole.

origin. Hence, reservoirs in the field are: (1) combination structural-stratigraphic traps; and (2) both vertically compartmentalized and laterally juxtaposed. Such an architecture lends to the real potential for recovering by-passed oil and gas reserves in untapped reservoir compartments throughout the field.

Author's contact information:
salvatore.mazzullo@wichita.edu

NOTE: The KGS Bulletin welcomes field studies of the type published above

and testing latest refinements in the stratigraphic nomenclature. Bob Slamal and Bob Walters could always be counted on to be part of continuing education events and engage others in debates about geology and stratigraphy. Bob Slamal passed away before his time in an auto accident on an icy Saturday morning of February 9, 2001 as he drove to the Society to do volunteer work. We remember that dedication and enthusiasm in so naming the type logs project in his honor. The digital logs and stratigraphic nomenclature of the type logs project will complement the Robert F. Walter's Digital Library to benefit future endeavors of our members. Their personal goals are now ours.

The next few years are shaping up to become a sea change in domestic energy production. Potential use of CO₂ for enhanced oil recovery in Kansas will likely be an important and growing component. Over 110 sequestration projects are now under development worldwide. Some \$3.4 billion is included in the current stimulus bill for various carbon sequestration-related research and demonstration projects. Most agree that short and mid-term applications will include enhanced oil recovery. An example is a newly announced project in Montana that will store CO₂ from a Canadian coal plant deep underground for later use in enhanced oil production. Kansas is well-positioned geologically and strategically to do the same and capitalize on this new economy. Daniel Yergin, chairman of the Cambridge Energy Research, stated at an energy conference that he organized in Houston in mid-February, that oil companies have known that major policy changes were coming and companies need to be part of the debate. Major companies are no longer arguing about basic philosophy, but about practical steps that will impact how they do business including shaping energy policy. The Kansas Corporation Commission has prepared proposed regulations for carbon dioxide storage: http://www.kcc.state.ks.us/conservation/proposed_regs_032609.pdf. There is no better time to become familiar with the topic as we plan for the future.

Respectfully submitted,

W. Lynn Watney



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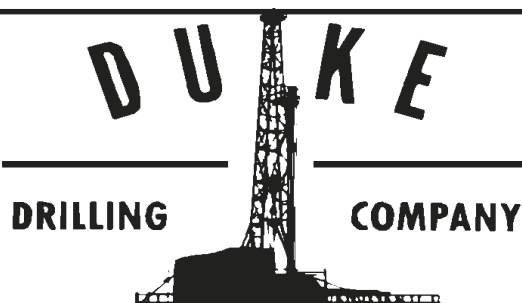
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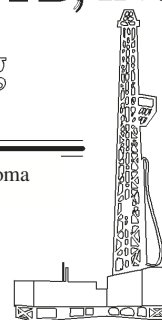
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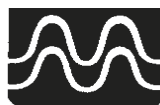
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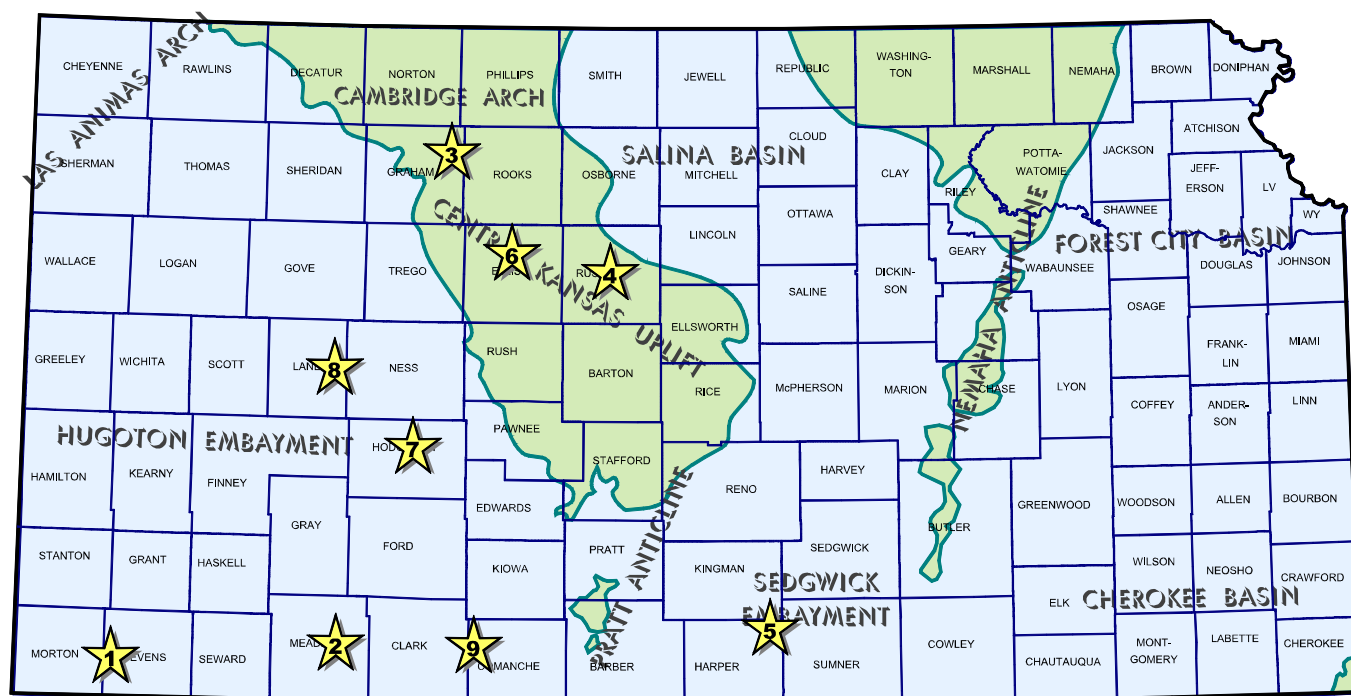
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Exploration Highlights

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



1 EOG Resources is producing on average 350 barrels of oil per day, no water, plus 1,518 Mcf gas per day, at the #27-3 Central Plains in Stevens county. The 6,000 foot deep well is a northeasterly stepout of the Renee field, which lies to the west in Morton county. The field was established by EOG Resources in early 2008. The Central Plains well has produced over 28,000 barrels of crude during the first three months on production, as well as over 116 MMcf of gas. Production formation is the Morrow. Drill site is located in the SW/4 of section 27- T33s- R39W, about thirteen miles southwest of the city of Hugoton, Kansas.

2 Keith F. Walker Oil & Gas Co., LLC has discovered Mississippian gas reserves at the Possum #9-1 well in Meade County. The wildcat test establishes the new Possum field in the NE/4 of section 9- T32s- R27W, about four miles east of Meade, Kansas. Operator placed the well on production in mid November last year. Unknown production volume of natural gas is being produced from the Mississippian Chester formation. Rotary total depth is 5,850 ft. The new source of supply lies over two miles east of gas production in the Meade field.

3 Independent producer John O. Farmer, Inc. has found new oil deposits in an undisclosed formation at the Frasca #1, located in the NE/4 of section 29- T7s- R21W, in Graham county. The wildcat well started producing oil in December last year. The Lansing-Kansas City and Arbuckle zones were primary

objectives. Operator used WW Drilling tools to drill the well to a total depth of 3,643 ft. The new unnamed field lies about a mile northeast of closest known production in the Holsman field, SE/4 of section 30, which John Farmer also discovered in October, 2007. The Holsman field produces oil from the Shawnee, LKC and Arbuckle zones.

4 In Russell county, about four and one-half miles northwest of the town of Bunker Hill, John O. Farmer, Inc. has discovered new oil deposits on the Dauber lease in the SW/4 of section 1- T13s- R13W. The #1-A well was completed in December last year for an undisclosed production rate. Producing zone is also unknown. Total depth is 3,375 ft. Lansing-Kansas City limestones were designated zones of interest. Site is located over three miles from the Waldo field which produces oil from the LKC zones. The new field has not been named.

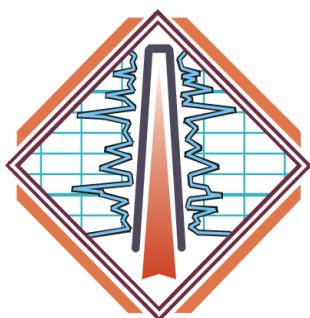
5 Murfin Drilling Company is producing an unknown amount of oil at their Helen #1-21, located in approximately C N/2 NW SW in section 21- T31s- R5W, Harper county. The unnamed pool opener was drilled to a rotary total depth of 4,810 ft., and had targeted the Lansing-Kansas City, Simpson and Arbuckle formations as primary zones of interest. Well site is located nearly one and one-half miles northwest of production in the Gerber field, where the LKC and Simpson Sand produces oil. The new unnamed field lies about eight miles northeast of Harper, Kansas.

6 In Ellis County, approximately two and one-half miles northeast of the town of Hyacinth, Kansas, McCoy Petroleum Corporation is pumping an undisclosed amount of oil from the Arbuckle formation at the #1-17 Dreiling A. Drilled in the NE/4 of section 17- T12s- R18W, the new Ridge Point pool opener found oil deposits almost three-quarters mile northwest of the Hyacinth Northeast field where the Lansing-Kansas City zones have produced over 84,000 barrels of oil since 1985. Nearest Arbuckle pay lies over one and one-half miles from wellsite.

7 American Warrior has opened the new Spreier oil field in Hodgeman County with the completion of the Spreier Unit #1-29. The well, spotted in the NE/4 of section 29- T22s- R23W, is producing an unknown amount of crude from the Mississippian formation. Well site is located nearly three-quarters mile west of the Armstrong Southwest field where a small amount of oil was produced from the Mississippian in the early 1990's. The Spreier Unit #1-29 was drilled to a total depth of 4,609 ft. Field lies one and one-half miles northeast of Jetmore, Kansas.

8 A new unnamed oil field has been discovered in eastern Lane county by Mull Drilling Company. The firm's Kent #1-7, spotted in the SE/4 of section 7- T18s- R27W, is pumping crude at an undisclosed rate. Well site is located almost three-quarters mile southeast of established Lansing-Kansas City and Marmaton oil production in the Stan Northwest field, which was discovered by L. D. Drilling in 2004. Operator drilled the Kent well to a total depth of 4,650 ft. The new unnamed field lies about three miles northwest of Alamota, Kansas.

9 John O. Farmer, Inc. has discovered Morrow Sand gas reserves over one and one half miles southeast of the multipay Comanche oil and gas field in Comanche county. The Herd #1-A, spotted in the SW/4 of section 20- T32s- R20W, was drilled to a total depth of 5,250 ft., in the Mississippian formation. Operator completed the wildcat well late last year for an unknown amount of production. The unnamed field is situated about two and one-half miles northwest of Protection, Kansas.



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Foundation Video / DVD Collection

New booklet available!

Just in time for the second semester of school, the Kansas Geological Foundation has come out with a booklet listing DVD's and VCR videos that are in our library and would be of interest to schools, home schooling, and the general public. There are over 300 listings, ranging from dinosaurs to how the earth works and many other topics of scientific interest in between. While there are a few tapes for the very young, the majority are geared for mid-elementary to high school. In the booklet, these tapes are broken down into topics for easy use and are listed as DVD or videos. The tapes are of high quality and have been screened for content. These tapes are of great supplemental use for scientific topics, especially the earth sciences, for teachers, and also would be good for use in the classroom when there is a substitute teacher. While we have more technical tapes, these are not listed in this pamphlet, but a list can be obtained at the Kansas Geological Society.

Use for these videos is not limited to schools. The general public will find much interest in many of the travel and nature videos, as well as many of the geology oriented topics.

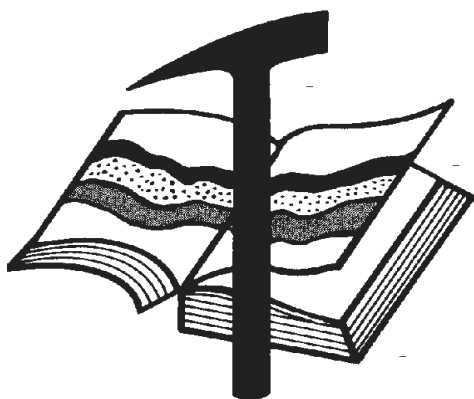
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A list of speakers available to talk about various aspects of geology may be obtained by contacting Janice Bright at the KGS Library, 265-8676. This service is free to the public.

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The Kansas Geological Foundation was founded in March, 1989 as a not-for-profit corporation under the guidelines of section 501(c)(3) of the tax code to provide individuals and corporations the opportunity to further the science of geology. It is dedicated to providing charitable, scientific, literary and educational opportunities in the field of geology for the professional geologist as well as the general public.

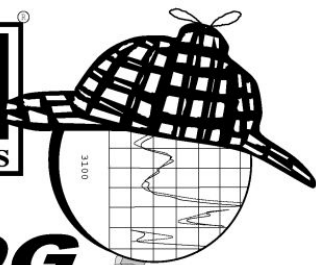
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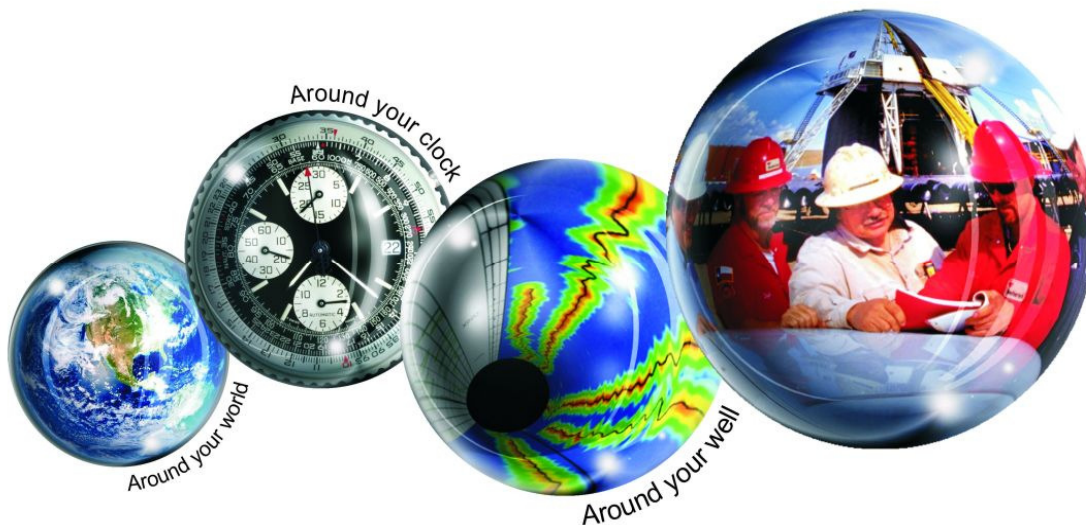
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April 2009

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