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KANSAS GEOLOGICAL SOCIETY

BULLETIN

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July—August 2013

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Carl Sebits

A DIFFERENT VIEW OF GEOLOGIC TIME

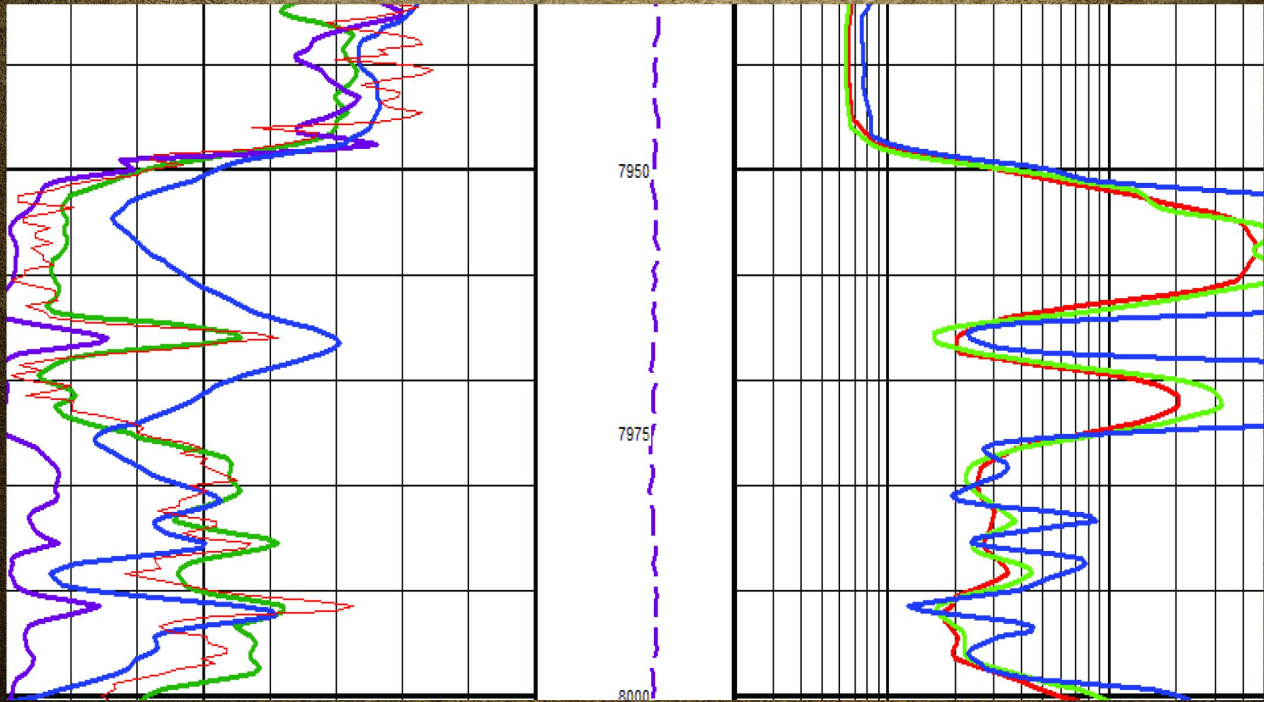
Part 3

Lawrence H. Skelton

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ON THE COVER:

Looks like we have harvested another crop of Geologists! This is a group shot of the Wichita State University Geology Department Field Camp, which took place in Wyoming this year.

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 Rebecca Radford, manager@kgslibrary.com or mailed to 212 N. Market, Ste. 100, Wichita, KS 67202. 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

Our Technical Meetings will take
a break for summer.
We will resume meetings in September

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

Earth Day Kansas 2013

Efforts by the Kansas Geological Society, Kansas Geological Foundation and the Kansas Geological Survey were successful with entering and staffing an educational exhibit booth during Meritrust Earth Day, April 25th at the Sedgwick County Zoo.

The goal of the exhibit was to educate students about the rock cycle and how rock is recycled. Meritrust officials announced that attendance at the event was 8900, up nearly 2000 from last year. Attendance at our booth was the same as last year with nearly 1500 students. The exhibit was a working model of a volcano, hands-on rock samples, and a new cross-section volcano display.

Exhibit volunteers distributed approximately 1500 geologic time bookmarks, 70 science kits, 50 rock sample trays for educators, 250 geologic map of Kansas post cards and other geo-science educational materials.

Special thanks to: Kent Matson, Matson Geological Services; Tom Hansen, Bittersweet Energy; Chuck Brewer, Anna Smith, Angie Chadd, and Brian Ortega, all from Geotechnical Services Inc.; Debra FitzGerald and Bob Cowdery, Kansas Geological Foundation; and Doug Davis and Rebecca Radford from Kansas Geological Society.

Submitted by Mike Dealy, Kansas Geological Foundation



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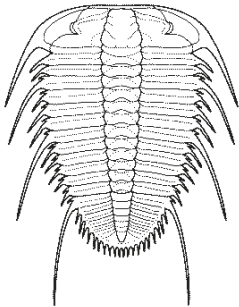
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**Kyle Day correctly identified the critter
in the last issue. Congratulations Kyle!**
“Paradamesella typica”

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Paleontology are prohibited from entering.**



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President's Letter

Dear Members,

I hope this letter finds all of you enjoying this mild summer weather we've been blessed with. I know that a lot of you did just that on June 24th for the KGS Golf Tournament. This was our first year to hold the tournament at Terradyne, and it was a real success. Dave Barker and his golf committee did a great job, and Terradyne was a nice place to hold the tournament. The course was in great shape, and was challenging. The lunch was excellent. All those who participated had a very good day.

Bob Cowdery has left for his Summer in Colorado, and a well deserved break from the excellent Technical programs he has organized every Fall and Spring for as far back as most of us can remember. He's asked to step down from this position this Fall, and I'm facing the difficult task of finding someone to fill his shoes. Bob says he's ready to slow down a bit, and I'm sure you'll all agree that he deserves a break. If you are interested, or want to recommend someone for this position, please let me know.

Since the last Bulletin, our building committee made an offer on a new building for the KGS Library and Kansas Geological Foundation. We were unable to negotiate the price we were looking for, and have withdrawn the contract. The Building Committee is continuing to look at potential buildings, and hope to make a new recommendation to both the KGS and KGF Boards before the next newsletter is published. I'll keep you informed of the progress.

The planning for the AAPG Mid-Continent Section meeting this Fall is well underway. Chairman, Doug Davis, and his committee have organized what's shaping up to be an outstanding meeting. I hope you all are making plans to attend, and will lend your support in time, talent and dollars when called upon to help make the meeting a success.

Our next event is the KGS Picnic, which will be held Friday, August 9, 2013 at All Star Sports West. Wes and Betty Hansen are our co-chairs for this event, and they are working hard to make this a great picnic. I hope to see all of you and your families at the event.

Until the next bulletin, I hope you all are finding lots of oil and getting out to enjoy the beautiful weather.

Respectfully Submitted,
Dave Clothier—President 2013





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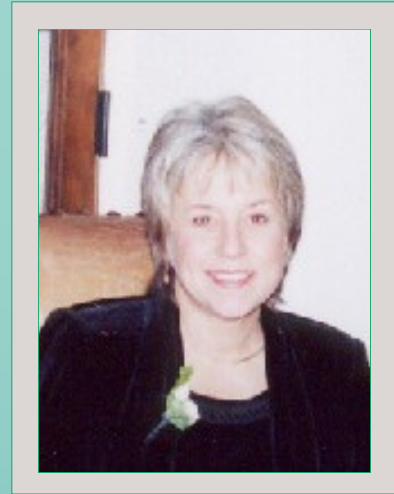
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From The Manager

Dear Members,

What a contrast in weather since the last letter I wrote in April. Wow! 80 degrees in July—that's a welcome oddity! Your library is staying very busy with orders and keeping up with all the new data that is coming our way. Several of you have taken advantage of our new services; the color wide format scanner and plotter/printer for your maps and also the newest service of converting logs into LAS files. We thank you for that business!



We had a wonderful day for our golf tournament this year and the change to Terradyne went off without a hitch. Nice course and all seemed to enjoy the day. We had at least 140 golfers. I hope you all will come out and enjoy the next event which is the Picnic at All Star Sports West. It is a little earlier this year, Friday, August 9th so get it on your calendars. Also, don't forget the fishing tournament which will be on September 13th at Pratt County Lake.

The KGS Board of Directors and the Building Search Committee has been hard at work looking at options in buildings and locations. I know they will find the right spot for us and help us plan for a great future for this library.

Many are hard at work planning the AAPG Mid-Continent Meeting here in Wichita this coming October. By the time you read this, registration will be open and you are encouraged to register on-line at www.aapgmcs.org.

Enjoy the rest of summer everyone!

Respectfully submitted,

Rebecca Radford

Manager



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Kansas Geological Society Board Minutes

The monthly meeting of the Board of Directors of the Kansas Geological Society was held on May 14, 2013 at the Wichita Petroleum Club. Mr. Clothier called the meeting to order at 11:37 AM. The April 9, 2013 Minutes were reviewed and approved

FINANCIAL REPORT/MANAGERS REPORT

- A. **Treasurer's Report-** Mr. Bayer presented us with the Treasurer's report for April 2013 at 12:09 PM. Mr. Bayer reported that the current CD's earned an estimated \$521.73 interest. The Treasurer's report was approved at 12:11 PM after Mr. Clothier made the motion.
- C. **Manager's Report-** Mrs. Radford presented the Manager's Report for April 2013. Monthly income was \$76,244.33 and expenses were \$80,129.51, making the net loss \$385.18 for the month. The reports shows 248 Walters Digital Library members. The Digital Library had a negative \$1937.69 in April after expenses. YTD earnings are \$54,888.07.

OLD BUSINESS

- A. Update from Building Search Committee: Kansas Geological Society continues to move forward on the purchase of a new building.

NEW BUSINESS

- A. KGS will form a new LLC to own building if a building is purchased.
- B. New service offered at library – making LAS files for clients from existing scans.

ADJOURNMENT- Mr. Clothier adjourned the meeting at approximately 1:10 PM.

Respectfully submitted, Paul Ramondetta—Secretary

The Society Board opted to not meet in the month of June.

AAPG Advisory Council Report—Bob Cowdery

President Ted Beaumont reported that a new Division of the AAPG is being formed which will require a Chair and a Vice-Chair.

Randy Ray, Chairman of the House of Delegates, reported to the Council: new division being formed. Application of the two societies, Ghana and Mylmar to become affiliated, (a vote was taken and they were accepted), Plan to move five societies out of the Asia-Pacific section into the European section, change the by-laws to allow the E-mailing of dues notices.

Executive Director, David Curtiss, announced that Randi Martinson was the new President-Elect of the AAPG.

Report was made that the finances of the AAPG “look good”.

A new journal in conjunction with the SEG is to be published which will be free to the membership.

A vote was taken on officer candidates. The results will be published at a later date.

Jeff Lund gave a committee report which proposed some drastic changes in the structure of the AAPG. He indicated that the changes would do the following: (1) foster scientific research, (2) advance the science of geology, (3) promote technology, (4) promote professionalism.

His committee studied many “sister societies” and concluded that AAPG should (1) simplify organizational structure, (2) emphasize technical interest groups, (3) eliminate competitive elections for most offices, (4) eliminate the sponsor requirement for membership applicants.

A final report on attendance was not received but it was around 5,000, which considering that the Eastern Section of AAPG is one of the smaller sections, is acceptable.

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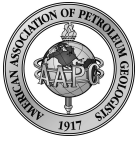
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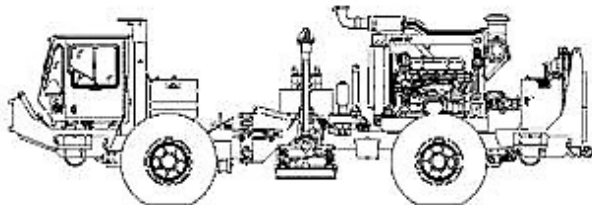
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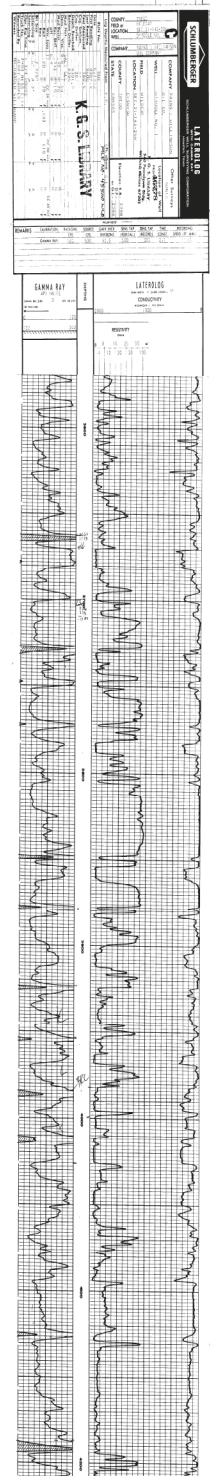
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A DIFFERENT VIEW OF GEOLOGIC TIME

Lawrence H. Skelton, Geologist
Wichita, Kansas

If geologic time, the 4.54 billion years since the Earth began, could be reduced to a period of just a single year, the calendar of events would be as follows: **Part III**

December 9 – 3:50 P.M. – The **Triassic Period** arrives to “save the day!” A new era – the **Mesozoic** shows that life is resilient. Conditions still are less than optimum. Since sea levels were low and the continents were higher, huge deserts and violent sandstorms remain the order of the day. The high latitudes are wetter and allow sufficient vegetation – conifers, ginkgos, cycads and seed ferns – to accumulate into future coal beds. The arucaria trees of the present Arizona Petrified Forest are alive and growing. The relatively few surviving Permian life forms had new niches to occupy. The first ichthyosaurs and plesiosaurs explored the seas eating what they wished. Some sharks remained to compete with them. The first flying reptiles, pterosaurs, controlled the air and on land, large amphibians and crocodiles and the earliest mammal, probably a meter (3 feet) long monotreme took care to avoid the Coelophysis, an early bipedal dinosaur which grows to be 2.7 meters (9 feet) long, is carnivorous and probably agile and fast. Its smaller “cousin” Eoraptor is about a meter (3.3 feet) long, also bipedal and carnivorous and is a competitor to Herrerasaurus. They and 40 or more other now known Triassic dinosaurs were unknown in the Permian but arose from Permian reptile ancestry. Having suffered extinction of 37% of known Permian species, insects begin to come back and the first representative of grasshoppers probably stayed in the forests to dine on liverworts, ferns and mosses. It is joined by the first wasps, mosquitoes and ants. Sea urchins, ammonites and other mollusks develop anew in the seas along with a newcomer – belemnites. Surviving fish are joined by many new types. Modern colonial corals (Hexacorals) make their debut and build reefs in deeper water. But life is never always rosy. The very size of Pangaea on a sphere contributed to its instability and it began to split. A rift began at the western end of the neo-Tethys Sea and spread westward across the present Mediterranean, following the northwest African coast which was joined to North America. A branch reached into now north central South America. The result is another massive basalt flood which covers a greater area than the end of Permian event. This new catastrophe, for it engenders another mass extinction, creates what geologists have named the Central Atlantic Magmatic Province or CAMP. It seems to have formed fairly quickly, over a period of 580,000 years and spread over 10 to 11 million square km (3.86 to 4.25 million square miles). The Palisades in New Jersey and New York and lava deposits in Nova Scotia were formed then and are matched by basalt beds in Morocco and the western Sahara and by similar aged basalts in Brazil, French Guiana, Surinam and Guinea. Laurasia and Gondwana were again separate and Cimmeria moved northward toward Laurasia. At about the same time, a chain of volcanoes poked out of the sea off the western coast of Laurasia. They would later “drift” into the continental mass and form the early Sierra Nevada chain. While this chaos was ongoing, about 12 million years before the end of the Triassic Period, a 5 km (3.1 miles) diameter asteroid slammed into present day Quebec excavating a 100 km (62 miles) diameter (Manicougan) crater. The CAMP basalt flood created another CO₂ event which is recorded in paleobotanic evidence. An estimated 10¹² metric tons of gaseous aerosols were injected into the atmosphere. Another devastating mass extinction ensued! 35% of all animal forms and 20% of marine families died out: most mammal-like creatures, many of the big amphibians, all sizes of dinosaurs (but not all dinosaurs), ammonoids and bivalves were hard hit but enough survived to carry on, many types of land plants, and conodonts (which had been around since the Cambrian) disappear forever. Following the previous Permian extinction, this was a major blow to life on earth and is estimated to have happened during a period of 50,000 years or less.

December 14 – 10:19 A.M. – **The Jurassic Period.** Dinosaurs rule! Pangaeian separation continues as Laurasia breaks apart into North America and Eurasia. By mid-Jurassic time, Gondwana splits into an eastern portion consisting of Antarctica, Australia, Madagascar and India and a western part (Eurasia) comprised of Africa, South and North America, Greenland, Europe and Asia. Later during the Jurassic Period, Eurasia continues to break apart and North America separates. The North China (Sino-Korean) and South China (Yangtze) blocks merge and by Mid-Jurassic time have collided with and joined the eastern Eurasian plate. As the North American plate moves westward over the oceanic plate, great amounts of sediments are bulldozed off the sea floor, pile up, and accrete to North America’s western edge. Deep and extensive granitic masses intrude along the west coast. All this activity, part of the Nevadan Orogeny, results in a high, rugged mountain range, the Sierra Nevada. As it erodes during the remainder of the Jurassic, huge amounts of clastic sediments are swept as far eastward as the mid-continent (Morrison Formation: now exposed at surface in Utah, Arizona, etc and is subsurface in western Kansas). By mid-Jurassic time, the early Atlantic Ocean is estimated to have been around 600 km (380 mi.) wide. On the European side, continued splitting from Africa forms the Alpine Tethys Sea, an early precursor to the Mediterranean. In northern Europe, a rift system which started in the present North Sea during the Triassic failed and during the Jurassic, much volcanic activity and basalt flows occur as the underlying mantle warps upward. Most of western Europe lay under a shallow sea. Around 60 varieties of Jurassic saurians have been found. Members of the plate-back Stegosaur clan move about as they wish. Among several varieties of carnivore saurians, the “king” is the Allosaurus which is up to 8.5 m (28.5 ft) long and weighs in at around 5,000 pounds. The Yangchuanosaurus, a meat-eater which roamed in China was of similar size and temperament. Record-setting giant tetrapod herbivores develop during the Jurassic and become extinct at its termination. The ground quivered when they walked: the largest known, Seismosaurus grew up to 45 m (148 ft) long with estimated weight at 55 tons, the Brachiosaurus, Apatosaurus (alias Brontosaurus), Brachiosaurus and Ultrasaurus were a bit shorter and weighed somewhat less excepting the Ultrasaurus whose weight is thought to range from 55 to 130 tons. In the sea, four varieties of marine reptiles are to be avoided: plesiosaurs, mosasaurs, ichthyosaurs and big turtles; all top-notch hunters. Brachiopods are reduced in number and type but ammonites, crinoids, sea urchins and belemnites thrive. 67 known genera of siliceous sponges thrive and build reefs in the shallow seas which covered central Europe. Hexacorals and algae flourish and form marine reefs from the equatorial zones to the high latitudes. Early in the Jurassic, something, perhaps a possible large release of methane from volcanoes, wiped out nearly 80% of marine shallow-water bivalve mollusks along with other shallow water creatures. Polar areas were warm and ice free. (At least one known dinosaur, the early Jurassic Crylophosaurus, roamed the Antarctica part of Gondwana.) The land surfaces were home for many other vertebrates and invertebrates: numerous

types of fresh-water fish, insects (30 known species of flies), multituberculates (early mammals), mollusks, smaller, non-saurian reptiles and two possible types of birds occupy the hospitable land areas of the world. Deserts were still plentiful however, although some saurians and probably lizards survived in them. As the Jurassic came to an end, several varieties of animals, including the giant saurians, became extinct but the overall demise was far from the extent of earlier mass extinctions.

December 18 – 10:34 P.M. The Cretaceous Period. The end of the Mesozoic is in sight. The early Cretaceous climate continues to be warm and moist like the preceding Jurassic Period. Near the middle of the period, the climate warms as increased worldwide volcanism leads to an increase in atmospheric carbon dioxide and causes global warming. As the Pangaeian breakup progressed smaller plates break off of Gondwana and move to new positions. As the Atlantic open between North America and Europe during early Cretaceous, a rift opens to form the Bay of Biscay and separate the Iberian block from present France. The block rotated counterclockwise into the western Tethys Ocean. The Atlantic Rift spread to the south and the African plate began to separate from South America and move north-eastward. Also during the Cretaceous, the Apulian (alias Adriatic) plate broke off of Africa and began moving northward toward Eurasia. As it progressed, it will be involved in the formation of the Dinaric Alps (in the Balkans), the Apennines and eastern part of Italy and the southern Alps (much of this activity being post-Cretaceous.) Meanwhile, the Nazca and Antarctic plates are sliding beneath the western edge of South America and consequently pushing up the young Andes Mountains. Early in the Cretaceous, the Farallon Plate (a separate portion of the Pacific Plate) begins to slip beneath the westward moving North American plate. The Farallon contained blocks or “mini-continents” which move with it and with the accreted wedge of seafloor sediments are scraped off the sinking ocean plate and pressed into and “welded” onto the coast. This was the Sevier Orogeny and is the origin of the Coastal Range of California. The pileup of an accreting wedge creates a forearc basin in its forward area and the Great Basin of California was the result. As subduction continues, the sinking plate reaches depths where melting occurs and the lighter, hot, rising magma breaks through the surface, creating a volcanic arc where the future Sierra Nevada Range would appear. During about the same time, the North American plate was moving over a mantle plume (presently located beneath Yellowstone Park) that was melting and injecting granitic batholiths. However, the plate movement was still not exhausted. During the Late Cretaceous, the Farallon Plate was overridden by the westward moving North American Plate and slid beneath at a shallow angle at the base of the crust. This caused the Laramide Orogeny that continued past Cretaceous time and raises the Rocky Mountains along the weakened fault zone that had existed since the Ancestral Rockies of the Mississippian Period. Late in the Cretaceous, Greenland breaks off Eurasia. North and South America are not yet connected. By mid-Cretaceous time, a warming climate and submarine volcanism was displacing sea water onto land. Much of Europe was a shallow sea as was much North America where the Midcontinent Seaway extended from the Arctic Ocean to the Gulf of Mexico in a band a thousand miles wide. Worldwide sea level stands higher than at any time since the early Carboniferous. Dinosaurs continued to rule the earth but the behemoth sauropods of the Jurassic have been replaced a few slightly smaller types. The Ceratopsians appear and the “top dog” Allosaurus was replaced by the equally terrible *Tyrannosaurus rex*. The Pachycephalosaurs debuted and members of the duckbill saurian family assemble and move in herds. The relatively small but deadly Velociraptor and Utahraptor chase and eat whatever they can catch. Armored ankylosaurs and the giant crocodile, *Deinosuchus*, roam the shore zones and huge marine reptiles such as mosasaurs and plesiosaurs rule the seas. They may have hunted for the Archelons, marine turtles that are 12 feet long and nearly that wide. Many types of modern fish, including rays and sharks, swim in the seas; fresh water fish abound and pterosaurs and the first birds are airborne. The first known ants and termites must have bothered some animals. The first angiosperms or flowering plants were bothered by the first aphids and pollenized if needed by the first butterflies and bees. Many types of modern trees originate during the Cretaceous: sassafras, oak, willow, beech and magnolia to name a few. The grass family makes its first appearance; to proliferate throughout the future. The angiosperms will diversify and spread over the world. Invertebrate marine animals continue from the Jurassic with little effort. The oceans are full of various foraminifera including the first marine diatoms. Coccolithophores, single-celled, flagella-bearing, phyto-plankton covered with geometric scales of calcium carbonate jump from fewer than 100 species in the early Cretaceous to nearly 500 known species during upper Cretaceous times. On dying, their shells disintegrated and the separate plates fell to the ocean floors to form thick beds of chalk in northern Europe, the Sinai and western Asia, the North American Interior Seaway and western Australia among other areas. The Cretaceous Period went out with a bang!

Near the end of Cretaceous time, weather changed on earth. Atmospheric temperature increased, many shallow ocean areas became stagnant and atmospheric carbon dioxide increased to possibly eight times that of the present day. The Laramide Orogen began raising land elevation in central North America and the Cretaceous sea drained into deepening ocean basins. None of these changes bode well for life. Volcanism increased and in India (which was still below the equator and separated from Asia), massive flood basalt eruptions began. Named the Deccan Traps, they will erupt for nearly a million years and expel about 1,000,364 km³ (240,000 miles³) of lava and untold volumes of gases. During the same time frame, an estimated 10 km (6 miles) diameter asteroid impacted the Gulf of Mexico near the present site of Chicxalub on Mexico’s Yucatan peninsula. It blasted out bedrock to depths between 15 and 25 km (9 to 15 miles) and made a crater with an outer ring 300 km (186 miles) in diameter. The blast vaporized limestone and gypsum beds sending huge amounts of sulfuric acid and carbon dioxide into the atmosphere. Dust and aerosols blot out sunlight for possibly weeks to months, lowering world temperatures. Tsunamis sweep in all seaward directions depositing debris in Haiti and the Brazos River area of present day Texas. Only 2,000 or 3,000 years earlier, a smaller asteroid had hit the center of present day Ukraine. It made a crater (the Boltysh Crater) 24 km (15 miles) in diameter and 590 meters (1,750 feet) deep. Still at the termination of the Cretaceous, there is evidence of a third asteroid, one 40 km (25 miles) wide struck the Indian Ocean off the coast of India leaving an oval crater roughly 400 by 600 km (370 x 250 miles) in dimension. The result of all this cosmic and volcanic mayhem was another mass extinction wiping out 85% of all species: dinosaurs, ammonites, rudist bivalves, marine reptiles, pterosaurs, many varieties of plankton, many land plants...all gone forever.

To Be Continued: Part IV will be in the September-October issue.

Memorials

George McNeish George Robert McNeish, 84, of Winfield, died peacefully in his sleep in the early morning hours of May 3, 2013. George was born Dec 28, 1928, to George Thomas and Florence Alma McNeish. He was a lifelong resident of Winfield and remained strongly committed to his family, the Winfield community, his beloved Kansas Jayhawks, the Wichita Symphony and his wife Marilyn's alma mater, Southwestern College.

A dedicated student, George graduated from the University of Kansas, where he was active in the Theta Tau fraternity, with a geological engineering degree. Fiercely independent, he returned to Winfield to create and operate his own successful small business, McNeish Oil Operations. Later, together with his wife, Marilyn, he delivered on a long-held dream to build a continuing care retirement community, Cumbernauld Village, named for his ancestors' home in Scotland. While many regarded this dream as unrealistic, the McNeishes persevered and realized their vision of a community that has provided a caring and compassionate home to many in their retirement years.

A scientific rock hound, George couldn't bear to part with core samples of stone unearthed from oil wells on which he consulted. He collected samples of sand from his world travels, the geologist in him curious about how the sand on one beach differed from the next, that each was unique. George shared this and other creative and intellectual passions with his kids, taking them fossil hunting at the farm, collecting rocks from creeks on countless road trips, and exploring the black sand beaches in Hawaii.

A kind, gentle, and serving soul, George McNeish was a committed Christian and believed in community service. He served on boards at First United Methodist, Southwestern College and the YMCA Camp, among others, and as Winfield's mayor in the late 1960s. He also believed in service to his country, and for his United States Army service in the Korean War, George earned the Bronze Star medal, Korean Service Medal and the United Nations Service Medal. Later, he was a founding contributor to the long-awaited and much-appreciated Korean War Veterans Memorial in the nation's capital. It was toward the end of his service in Korea that he turned to a friend and pronounced, "I'm going to go home and marry Marilyn Powers." When George got an idea in his head, he usually figured out a way to make it happen.

George was a much-loved husband, dad, uncle, grandpa and friend. Survivors include his devoted wife, Marilyn McNeish, and their four kids, Greg, Jerry, Tom and Marya. His survivors also include their spouses, Sue McNeish, Nancy McNeish and Rebecca McNeish and Bob Robinson; grandchildren, Sarah and Kris Cooper, and their children, Meagan, Matthew and Kaleb; Melanie and Alex Reynolds; Corey and Lindsay McNeish; Grant and Leslie Hodges, and their son, Avery; Erica and Braden Duncan, and their children, Emilie and Landon; and Lucinda and Ivan Robinson. In addition, George is survived by his brother- and sister-in-law, Louis and Ruth Nell Powers, and his nieces and nephews, Diane, Steve and Alice, and Jamie, LouAnn and Cheryl, and their spouses and children.

Carl W. Sebitts, 97, passed away peacefully Thursday, June 27, 2013, at his home near Cheney, Kan. Service was held at 11 a.m. Monday, July 1, 2013 at United Methodist Church, Cheney, with Pastor Doug Hasty officiating.

Carl was born Oct. 15, 1915, in Caldwell, Kan. to Charles and Edna (Poulson) Sebitts. After serving the U.S. Navy during WWII, he worked for oil companies in Colorado Springs and Wichita. In 1948, Carl and two partners started Pickrell Drilling Co. in Wichita and Great Bend. He served as president of the company from Jan. 1986 until his death.

Carl was involved for many years with various educational and charitable organizations around Wichita including Friends University, Wichita State University, Salvation Army, Wichita Crime Commission, and the Downtown Kiwanis. He was also involved with several oil industry organizations, KIOGA and IPAA. He was preceded in death by his parents; brother, Clarence Sebitts of Wichita and sisters, Inez Baddeley, Florence Cole, Edna Earl Salisbury all of Calif.

On Sept. 14, 1941, he married Dixie Wallace in Cheney. She also preceded him in death on Sept. 27, 2011. Survivors: son and daughter-in-law, David and Dixie Sebitts of Hesston; grandchildren, Trent and wife, Jeni Sebitts of Wichita, Travis and wife, Andrea Sebitts of Hesston, Lindsey Sebitts of Hesston; great-grandchildren, Isabella, Preston, Zach, Ethan and Andrew Sebitts. Memorials established with Salvation Army, Harry Hynes Memorial Hospice and Friends University Scholarship Fund.

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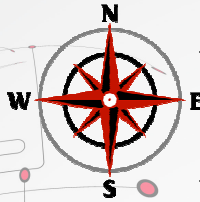
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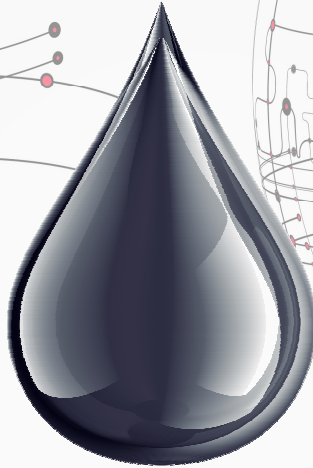




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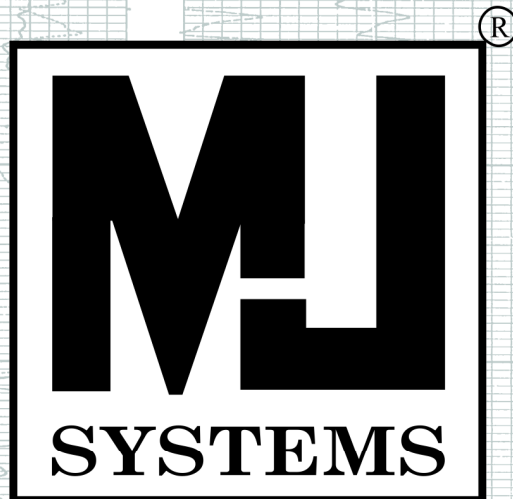
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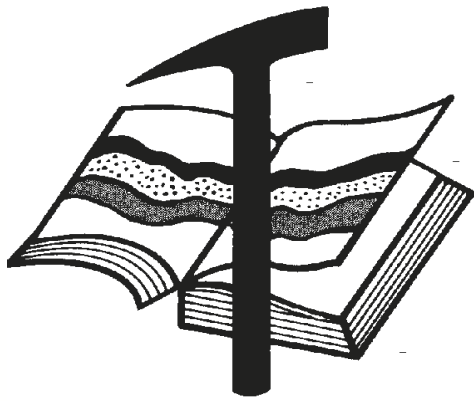
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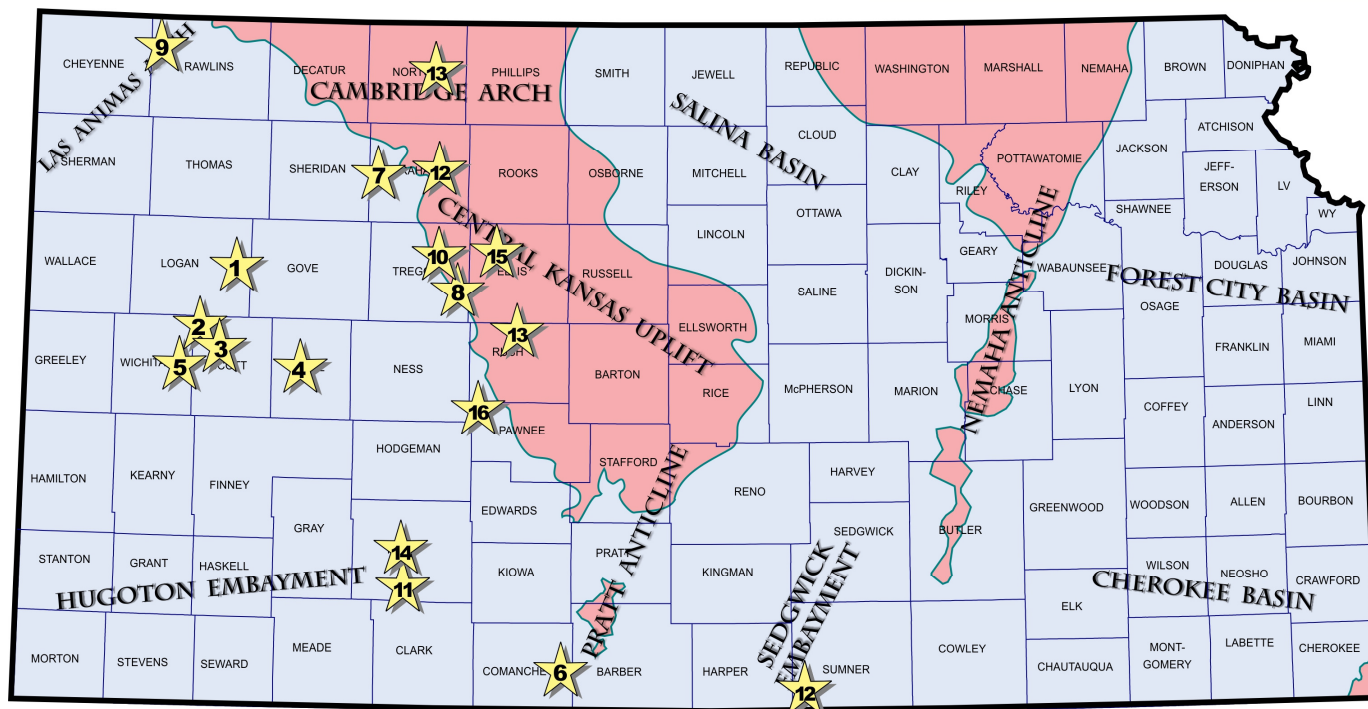
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(1) **Blake Exploration, LLC**, Bogue (KS), is pumping 25 barrels of oil, no water, at the 1 Audrey (API 15-109-21138) new pool discovery in **Logan** County. Located in the SE SE SW of section 31 - T13s- R32W, the 4,550 ft deep wildcat well is producing oil from the Johnson Zone of the lower Cherokee formation perforated from 4,430 to 4,436 ft. Pay zone was treated with 2,000 gallons of acid (28% NE). Production started on December 1, 2012. The new find lies over one mile north of the Smoky Valley Southeast field (Lansing-Kansas City oil), or two miles south and thirteen miles east of Russell Springs, Kansas. The new field has been named Smoky Valley East.

(2) **Shakespeare Oil Company, Inc.**, Salem (IL), has discovered Marmaton oil reserves nearly one mile west of the Pence oil field in northwestern **Scott** County. The firm's 1-28 Nightengale (API 15-171-20930), spotted in the SE NE NE of section 28- T16s- R34W, was placed on the pump in May for an undisclosed rate of production. H. D. Drilling tools were contracted to drill the well to a total depth of 4,873 ft. Shakespeare established the Pence oil field in section 27 in late 2010 with the discovery of both Marmaton and Cherokee oil deposits. Field area lies ten miles north of the town of Modoc, Kansas. The new oil field was named Pence West.

(3) **New Gulf Operating, LLC**, Tulsa (OK), is producing oil from the Marmaton formation at their 1 Captain Kirk (API 15-171-20927), located in the NE NW NE of section 18- T17s- R33W, **Scott** County. The wildcat well establishes production almost one mile southwest of the one-well Frick oil field in the NW/4 of section 6. The Frick field was established in Sept. 2012 by Landmark Resources, Inc. The pool discovery well, 1-8 Frick (API 15-171-20886), is producing oil from the Fort Scott limestone. New Gulf's new oil field has been named Star Trek. Activity is centered about eight miles northwest of Scott City, Kansas.

(4) **Larson Operating Company**, Olmitz (KS), has completed the 2-19 Bockelman (API 15-101-22420) in the NW SW NE of section 19- T18s- R29W, **Lane** County. The wildcat well was drilled to a total depth of 4,661 ft where oil deposits were found in the Lansing-Kansas City formation. The new Reifschneider Southwest field lies over one mile from three multipay producing fields in the vicinity. The Bockelman lease is located about two miles east of Amy, Kansas, or five miles west of Dighton.

(5) **Lario Oil and Gas Company**, Wichita (KS), is producing oil from the Marmaton formation at the 1-3 Berning (API 15-203-20209), located in the NE SW NW of section 3- T18s- R35W, **Wichita** County. The remote wildcat well found crude oil deposits over two miles northwest of Marmaton production in the Felt field, which Lario also established in September, 2012 with the completion of their 1-11 Felt Farm (API 15-203-20183) in the SE/4 of section 11. No completion details have been reported. The new Felt Northwest oil field is located about three miles northeast of Marienthal, Kansas.

(6) **Castelli Exploration, Inc.**, Oklahoma City (OK), has discovered oil deposits in what has been reported to be the Chattanooga Shale formation in eastern **Comanche** County. Discovery was made at the 1-24 Charlie Brown, located in the NW SW SE of section 24- T33s- R16W, about seven miles south and sixteen miles east of Coldwater, Kansas. The well was put on pump in February this year, but was soon worked-over in April, setting a bridge plug above the Chattanooga to produce oil from the Pawnee member of the Marmaton group. Duke Drilling was used to drill the well to a total depth of 5,600 ft.

(7) The new Ham Northeast oil field lies one and one half miles east of the Ham Mississippian oil and gas field. **H & C Oil Operating, Inc.**, Plainville (KS), has successfully completed an infield

discovery well on a separated feature located on the western side of the Holley West field (est. 1968, Lansing-Kansas City oil) in **Graham** County. The 26-1 David Trust (API 15-065-23891) is producing an unknown amount of oil at site located in the NE NW SW of section 26 - T8s- R25W, about one and one-quarter miles south of Morland, Kansas. American Eagle Drilling tools bottomed the well at a total depth of 4010 ft.

(8) Downing-Nelson Oil Company, Inc., Hays (KS), has discovered a new pay horizon in the Erleka field (est. 2006, Lansing-Kansas City oil) located in the southeastern corner of **Trego** County. Arbuckle oil deposits, along with LKC oil, has been recovered at the 2 Erleka (API 15-195-22846), spotted in the NE NW NE of section 14- T14s- R21W. The field stepout well was completed for 10 barrels of oil and 40 barrels of oil per day with LKC pay zone from 3619 to 3623 ft and Arbuckle pay from 3969 to 3972 ft. Discovery Drilling tools drilled the well to a total depth of 4070 ft. Field area lies six and one-half miles south and one and one-half miles west of Ellis, Kansas.

(9) Murfin Drilling Company, Inc., Wichita (KS), has discovered a new Energy oil field in northwestern **Rawlins** County with the completion of the 1-22 PTL well (API 15-153-20910), located in the SW NW SE of section 22- T2s- R36W. The wildcat well discovered Lansing-Kansas City oil deposits nearly a mile southwest of the recently established Happy Southwest field (Lansing-Kansas City oil). Murfin opened the field late last year with the completion the 1-23 Frisbie in the NW/4 of section 23. No completion details have been released. Company rotary tools drilled the well to a total depth of 5060 ft. Wellsite is located about five miles north and one mile east of McDonald, Kansas.

(10) Mid-Con Energy Operating, Tulsa (OK), has completed their third Marmaton limestone oil producer in Kansas at the 1-12H Holland (API 15-195-22811) - a 7476 ft (measured depth) horizontal well in **Trego** County. The Sherfick Northwest pool stepout was completed for 150 barrels of oil and 40 barrels of water per day at site located about one and one-half miles north of the town of Ogallah, Kansas. Top of the Marmaton formation was logged at 3974 (-1637 kb). True vertical depth at the toe of the lateral section was measured at 3997.83 ft. Operator completed the well in nine stages from thirty-six sets of perforations shot over an interval ranging from 4499 to 5922 ft in depth. The well was drilled in the SE SE SW SW of section 12- T12s- R22W with the horizontal leg running in a northwesterly direction ending in the northwest corner of the same section. Trinidad Drilling served as contractor.

(11) BEREXCO, Inc., Wichita (KS), is producing 25 barrels of oil per day, no water, at the 1-34 Shelor (API 15-057-20853) wildcat well in **Ford** County. The well opens the new Bloom Townsite West oil field nearly one and one-quarter miles west of known Morrow oil and gas production in the Fager East field (est. 1983). BEREXCO's latest find is also producing oil from Morrow perforations from 5378 to 5384 ft. Wellsite geologist David Gould called the log top of the Morrow at 5351 (-2750 kb). Company-owned rotary rig bottomed the well at a 5500 ft. Field area is located four and one-half miles northeast of Minneola, Kansas.

(12) SandRidge Exploration and Production, LLC, Oklahoma City (OK), has established Mississippian oil production at their 1-20H Peter 3404 (API 15-191-22668) horizontal well located in the SE/4 of section 20- T34s- R4W, in southwestern Sumner County. Operator found the new reserves nearly one and one-quarter miles southwest of the now abandoned Bluff field which also produced Mississippian oil from 1980 to 1994. The 1-20H Peter 3404 was drilled from a surface location in the SW SE SE SE of section 20 with lateral hole extending in a northerly direction into the N/2 NE SE of section 17. True measured depth is 11,618 ft. No completion details have been released. The new Eden Road West field lies about eight miles west of Caldwell, Kansas.

(13) Mustang Energy Corporation, Hays (KS), has discovered Arbuckle oil deposits at their 1-8 Herrman (API 15-165-22010), spotted in the SW NE NE of section 8- T16s- R18W, in **Rush** County. The wildcat well was drilled to a total depth of 3690 ft at site located about one and one-half miles north of the town of Liebenthal, Kansas. Closest known production is found nearly three-quarters mile to the west in the Big Timber (Lansing-Kansas City) oil field. The new field has been named Big Timber East.

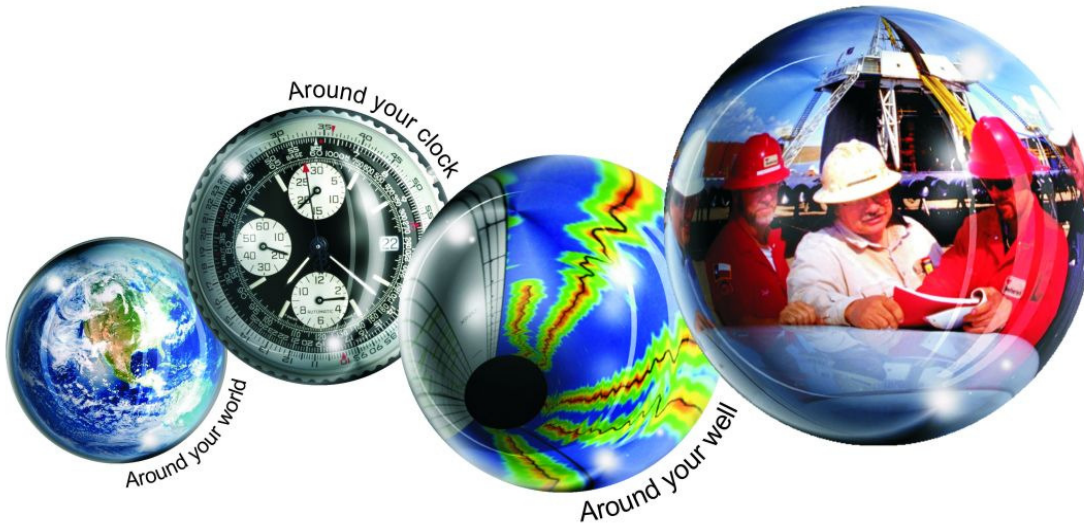
(14) Ritchie Exploration, Inc., Wichita (KS), has completed the 1-X Ford Yard - KSR "Twin" well (API 15-057-20865) in **Ford** County. The wildcat well is producing an undisclosed amount of oil from the Pawnee Limestone member of the Marmaton Group. Duke Drilling tools bottomed the well at a total depth of 5075 ft. Well site is located in the NW SW NW of section 12- T27s- R24W, over one mile north of Marmaton oil producers in the Big Thunder oil field, which Ritchie discovered in March a year ago with the completion of the 1 Potosi in the SW/4 of section 13. The new Thunder North oil field is situated about two miles southeast of Fort Dodge, Kansas.

(15) Staab Oil Company, Hays (KS), is pumping 20 barrels of oil and 5 barrels of water per day at the 1 Mary Ann (API 15-051-26469) new pool discovery well in **Ellis** County. Located in the NE SW NE of section 33- T12s- R19W, the well is producing crude from the Lansing-Kansas City formation from perforations between 3494 to 3497, 3616 to 3618 and 3636 to 3640 ft. Shields Drilling tools drilled the well to a total depth of 3916 ft. Field area is located nearly three miles southwest of Hyacinth, Kansas. Geologist Randy K. Kilian provided well site supervision. The new field has been named Schoenthaler East.

(16) Bear Petroleum, LLC, Haysville (KS), has successfully completed the 1 Tombaugh (API 15-145-21685) as flowing 250 Mcf gas daily, no water, from the Mississippian formation. Operator discovered the new gas reserves over one and one-half miles southwest of the Newsom Field where over 10,000 barrels of Mississippian oil was recovered from 1966 through 1993. Well site is located in the SE SE SW of section 26- T20s- R20W, about two and one-half miles northeast of the town of Burkett, in **Pawnee** County. The new gas field has been named Newsom Southwest.

Kansas Geological Foundation Memorials

KGS Member	Date Deceased	Memorial Established	KGS Member	Date Deceased	Memorial Established
Dan Bowles	09/89	1990	Jerold E. Jesperson	06/01	2001
John Brewer	10/89	1990	William A. Sladek	06/01	2001
George Bruce	08/89	1990	Harlan B. Dixon	06/01	2001
Robert Gebhart	01/90	1990	Edward B. Donnelly	08/01	2001
Ray Anderson, Jr.	11/90	1990	Richard P. Nixon	02/02	2002
Harold McNeil	03/91	1991	Robert W. Frensley	12/01	2002
Millard W. Smith	08/91	1991	Gerald W. Zorger	01/02	2002
Clinton Engstrand	09/91	1991	Don L. Calvin	03/02	2002
M.F. "Ted" Bear	10/91	1991	Claud Sheats	02/02	2002
James & Kathryn Gould	11/91	1991	Merle Britting	2002	2002
E. Gail Carpenter	06/91	1993	Harold Trapp	11/02	2002
Benton Brooks	09/92	1992	Donald M. Brown	11/02	2003
Robert C. Armstrong	01/93	1993	Elwyn Nagel	03/03	2003
Nancy Lorenz	02/93	1993	Robert Noll	09/03	2003
Norman R. Stewart	07/93	1993	Benny Singleton	09/03	2003
Robert W. Watchous	12/93	1993	Jay Dirks	2003	2003
J. George Klein	07/94	1994	J. Mark Richardson	02/04	2004
Harold C.J. Terhune	01/95	1995	John "Jack" Barwick	02/01	2004
Carl Todd	01/95	1995	Richard Roby	03/04	2004
Don R. Pate	03/95	1995	Ruth Bell Steinberg	2004	2004
R. James Gear	05/95	1995	Gordon Keen	03/04	2004
Vernon Hess	06/95	1995	Lloyd Tarrant	05/04	2004
E. K. Edmiston	06/95	1995	Robert J. "Rob" Dietterich	08/96	2004
Jack Rine	07/95	1995	Mervyn Mace	12/04	2004
Lee Cornell	08/95	1995	Donald Hoy Smith	04/05	2005
John Graves	10/95	1995	Richard M. Foley	06/05	2005
Wilson Rains	10/95	1995	Wayne Brinegar	06/05	2005
Heber Beardmore, Jr.	09/96	1996	Charles B. Moore	09/96	2005
Elmer "Lucky" Opfer	12/96	1996	Jack Heathman	05/06	2006
Raymond M. Goodin	01/97	1997	Charles Kaiser	09/06	2006
Donald F. Moore	10/92	1997	Rod Sweetman	08/06	2006
Gerald J. Kathol	03/97	1997	Karl Becker	10/06	2006
James D. Davies	08/88	1997	Frank Hamlin	10/06	2006
R. Kenneth Smith	04/97	1997	Marvin Douglas	12/06	2006
Robert L. Dilts	05/97	1997	Robert W. Hammond	04/07	2007
Delmer L. Powers	06/72	1997	Eldon Frazey	04/07	2007
Gene Falkowski	11/97	1997	Pete Amstutz	05/07	2007
Arthur (Bill) Jacques	01/98	1998	Charles Spradlin	05/07	2007
Bus Woods	01/98	1998	Donald R. "Bob" Douglass	09/07	2007
Frank M. Brooks	03/98	1998	Vincent Hiebsch	11/07	2007
Robert F. Walters	04/98	1998	Glen C. Thrasher	03/08	2008
Stephen Powell	04/98	1998	Peg Walters	06/08	2008
Deane Jirrels	05/98	1998	Theodore "Ted" Sandberg	07/08	2008
William G. Iversen	07/98	1998	James Ralstin	11/08	2008
Ann E. Watchous	08/98	1998	Earl Brandt	04/09	2009
W.R. "Bill" Murfin	09/98	1998	Walter DeLozier	05/09	2009
Donald L. Hellar	11/98	1998	Don D. Strong	01/10	2010
Joseph E. Rakaskas	01/99	1999	John Stone	02/10	2010
Charles W. Steincamp	02/99	1999	Craig Caulk	03/10	2010
Robert and Betty Glover	10/96	1998	Joseph E. Moreland, Jr.	03/10	2010
Howard E. Schwerdtfeger	11/98	1999	Gene Garmon	03/10	2010
W. W. "Brick" Wakefield	03/99	1999	James F. Dilts	05/10	2010
V. Richard Hoover	01/00	2000	Jerry Pike	05/10	2010
Warren E. Tomlinson	01/00	2000	Donald Hollar	06/10	2010
James A. Morris	01/00	2000	Delbert Costa	08/10	2010
Eric H. Jager	03/00	2000	John Tanner	08/10	2010
Kenneth W. Johnson	03/00	2000	William (Bill) Owen	09/10	2010
Dean C. Schaake	03/00	2000	Harold (Hal) Brown	10/10	2010
Fred S. Lillibridge	05/00	2000	Edmund G. Lorenz	11/10	2010
Jerry A. Langrehr	07/00	2000	Thomas E. Black	05/11	2011
Clark A. Roach	07/00	2000	Wayne E. Walcher	07/11	2011
Floyd W. "Bud" Mallonee	10/00	2000	Henry F. Filson	07/11	2011
Ralph W. Ruuwe	09/00	2000	Thomas Ray	07/11	2011
Robert L. Slamal	02/01	2001	Edgar E. Smith	09/11	2012



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 July—August 2013

July 2013

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August 2013

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KIOGA at Double Tree Wichita						
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