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ON THE COVER:

Karsting of Osagean cherty limestone has resulted in the formation of remnant limestone towers and intervening vertical chambers of dissolutional origin. Photo by S.J. Mazzullo taken on Highway 13 near Reeds Spring, Missouri.

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
Fall 2009

Sept. 15—Alan DeGood—“The Role Kansas’s Natural Resources Played in the Development of Kansas”

Sept. 22—Ernie Morrison—“Fairport Field: A 120 Mile Step Out”

Sept. 29—Ray Sorenson

Oct. 6—Tom Ostrye

Oct. 20—Robert Henthorne, KDOT

Oct. 27—Norman Hyne—“The Glenn Pool Oil Field & the Start of the Oklahoma Oil Boom”

Nov. 3—Sal Mazzullo, etal—“Mississippian Outcrop-to-Subsurface correlations & Depositional Systems: Implications for Reservoir Prospecting”

Nov. 17 William Morris

Nov. 24—Matt Brueseke, Kansas State

Dec. 1—Brian Cardott, “History of CBM in Oklahoma”

Dec. 15—Paul Ramondetta

Dec. 22—Dr. Stephen Hasiotis, KU

Location for Technical Meetings

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

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

Now, in the 21st Century, we and future generations must develop every available energy resource at our disposal. The AAPG is welcoming an entirely new generation of geoscientists into our ranks, and it is our responsibility as a professional organization to provide the intellectual resources to these new hires (and old hands alike) so that they can develop the new energy resources for generations yet to come.

Session Topics Include:
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- Applications for 3-D Seismic: Structure, Seismography, & Fracture Identification
- Horizontal Plays in the Mid-Continent: Geologic Opportunities, Drilling and Completion Techniques
- Fractures & Microfractures: Importance to Resource Plays
- Professional Development for Geoscientists: New Hires to Old Hands, Concepts to Completions
- Mid-Continent Petroleum Systems
- Unconventional Technology in Mature Fields
- Shale and Gasbed Reservoirs in the Mid-Continent
- New Oil and Gas Ventures: Dare-Dream-Do
- Geology of the Mid-Continent

Visit us online at www.2009aapgmidcon.com for updated technical program, field trip, short courses, student awards, and sponsorship information!

Registration opens July 1, 2009!

Presented by the Tulsa Geological Society.
I was fortunate to be able to participate in a number of events this summer including AAPG Annual Meeting in Denver and a seminar at the West Texas Geological Society in Midland both in June, an informative two-day oil and gas seminar in early August sponsored by Kansas Next Step, a non-profit organization in Hays that helps students achieve academic success, and the KGS Annual Picnic and KIOGA Annual Meeting in Wichita in mid August. Late August to mid September are rounded out with the KDHE Geology Section Fall Seminar in Wichita, AAPG Leadership Conference in Tulsa, and EKOGA Trade Show in Chanute. Many topics were discussed that ranged from the new software interface to the Walter Digital Library, exciting geoscience-related discussions on play and field development, using new drilling technologies in Kansas, developing Kansas’ low BTU shallow gas resources, and getting CO₂ to Kansas oil fields to support enhanced oil recovery. Your new ideas matched with new technologies and access to data will continue to make Kansas a great place to do business.

KGS staff and its members are looking forward to participate in the 2009 AAPG Mid-Continent Meeting in Tulsa on October 11-13 and the Energy Libraries Conference that precedes that meeting. Also, I hope you can be present to hear the 12 excellent speakers who will present at the Tuesday noon KGS Technical Meetings this Fall at the Sedgwick County Law Library. The annual KGS Shooting Tournament will also be held this fall at Lynnbrooke Sporting Clays (on a Monday this year, October 5th).

As we enter the Fall season, the economy continues to be an important topic in our conversations whether it casual or business related. The economy shows signs of slow improvement, oil prices and Kansas drilling activity have also risen and, thankfully, business at the KGS Library on the rise. Yet, natural gas has not realized the same recovery. The boost in oil prices is attributed to more rapid economic recovery and demand in places such as China. In contrast, a record high level of working gas in underground storage and a cooler summer in the US has led to a steady decline in gas prices to the lowest levels in seven years. On a BTU basis, gas is undervalued compared to oil by four times. However, NYMEX future contracts for gas this winter are a couple of dollars higher, around $5/MCF, and recent indicators of more industrial output, suggest, at least to me, a sense of optimism. The 56% decline in natural gas rigs since the same time last year in the U.S. will mean less new production and eventually decreased supply. It’s a familiar path of down and up and I speak for many hoping that a fair price for gas will return sooner than later.

May you all have a productive and enjoyable Fall season. I look forwards to seeing you at the upcoming events.

Respectfully submitted,

Lynn Watney
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Dear Members,

Okay, it’s time to get busy again….the price is moving in an upward motion and everyone keeps telling me they are going to be doing more drilling in the 3rd & 4th quarter. Your library needs the business so please make use of our data when planning your drilling.

The Library has purchased a Neuralog color log printer that will take most any file type, TIF, Corel Draw, LogPlot, etc. so please bring your Plotted Geo Reports in on a disc or jump drive and we can print them for less than the competition, I am sure. Note that there is an 8.25” width restriction. This is your Library and Society and we want to keep it around for your future and future generations but you must support it in order for that to be a reality.

Soon the new software that will run the Walters Digital Library will be complete and you will see a marked difference in the amount of data that is on-line and the ease at which you will be able to access it. We had a demonstration of the software at KIOGA and will be beta testing within the next two weeks so we are close to wrapping this project up and getting it out there for your use. If you are in the library, please stop in my office for a preview of the software. I want to take this time to commend and thank Kurt Look and Eileen Jones at the Survey for their hard work on this project and their expertise in what we needed. I think all of you digital users will be very pleased!

We had a very successful picnic again this year and our thanks goes out to Marjorie Crane-Noel for organizing that event again. We have the last KGS event of the year coming up on October 5th, which is a Monday. The 16th Annual KGS Shooting Tournament will be held again at Lynbrooke Sporting Clays Range near Augusta. This is a wonderful facility and one of the best events the KGS puts on, so please dust off your shotguns and register for the Clay Shoot.

Respectfully submitted,

Rebecca Radford
Manager
OIL INDUSTRY
Areas of Historical Oil and Gas Exploration and Production in the United States – USGS—The USGS recently completed a map compilation showing historical oil and gas exploration and production.

Petroleum Systems and Geologic Assessments of Undiscovered Oil and Gas, Hanna Laramie and Shirley Basins Province, Wyoming and Colorado - USGS—The assessment is based on geologic principles and uses the total petroleum system concept.

Geologic Assessment of Undiscovered Gas Resources of Eastern Oregon and Washington Provinces – USGS
The assessment is of the undiscovered oil and gas resources of the Eastern Oregon and Washington Province, which encompasses about 60,000 square miles.

Jurassic- Cretaceous Composite Total Petroleum System and Geologic Assessment of Oil and Gas Resources of the North Cuba Basin Cuba – USGS


Focused Oil Technology Programs (Native American Independent Producers, PUMP PRIME, and Tech Transfer) ARCHIVE – Office of Fossil Energy – NETL

Modern Shale Gas Development in the United States: A Primer – NETL

Oil Program-Enhanced Oil Recovery (EOR) Archive – Program Results from the Mid70’s to 2009 – NETL
Disk 1: Introduction/Analysis, Chemical Flooding, CO2/ Gas Injection, and General
Disk 2: Heavy Oil, Improved Sweep, Microbial, Stimulation/Models, Thermal, and Waterflooding

GIS Data Set – Teapot Dome, Natrona, County, Wyoming – Rocky Mountain Oilfield Testing Center

NPR-3 Well Log Data Set – Teapot Dome-Natrona County, Wyoming – Rocky Mountain Oilfield Testing Center

Core Data from Well 48-X-28 – Teapot Dome-Natrona County, Wyoming-Rocky Mountain Oilfield Testing Center

Virtual Petrophysical Tool – Brochure and Samples – HDS 2000

U.S. Department of Energy’s Advanced Diagnostics imaging System (ADIS) and Drilling Completion Stimulation (DCS) Project Archive –Office of Fossil Energy – NETL

Reservoir Solutions – 2005 – Ryder Scott Company

ALASKA
Geologic Assessment of Undiscovered Technically Recoverable Coalbed Gas Resources in Cretaceous and Tertiary Rocks, North and Adjacent Waters, Alaska – USGS

Alaska Oil and Gas Opportunities – February 2009-State of Alaska, Department of Natural Resources

Oil and Gas Basin Resource Studies – Interior Alaska-Copper River Badin, Holitna Basin, Minchumina Basin, Nenana Basin and Sustna Basin – State of Alaska Department of Natural Resources

Oil and Gas Basin Resource Studies-Alaska Peninsula-General Information, Digital Well Data, Maps, Posters, Scanned Well Log Images and Digital Seismic Data-State of Alaska, Department of Natural Resources

Oil and Gas Basin Resource Studies-North Slope Alaska-Oil and Gas Programs, Regional Geology, Seismic Data Availability, Gravity and Magnetic Data- State of Alaska, Department of Natural Resources

PERU
Peru: a window of opportunities- Hydrocarbon Exploration Opportunities in Peru, Technical Information – Peru Petro

Hydrocarbon Exploration Opportunities in Peru – General Information – Peru Petro

GEOPHYSICAL INFORMATION
All Data Programs – Echo Geophysical Corporation

Seismic Data Set-Teapot Dome-Natrona County, Wyoming – Rocky Mountain Oilfield Testing Center

3-D Seismic Exploration Project, Ute Indian Tribe, Uintah & Ouray Reservation, Uintah County, Utah (Four
Disks) Work performed by Wind River Resources Corporation for U.S. Department of Energy – National Energy Technology Laboratory

GENERAL
Carbon Sequestration Atlas of the United States and Canada – NETL

Carbon Sequestration – Office of Fossil Energy
Videos included on CD include: Geologic Carbon sequestration – A path toward zero emission energy from coal – An introduction to carbon capture and sequestration

Geothermal Technology Program – Tools and Resources – U.S. Department of Energy

All About Geothermal Power – Joint effort by several companies


GIS-UDRIL Data Sets “Salt Tectonism of Northern Gulf of Mexico”, “Georeferenced Raster Images of Gas Shales”- AAPG/Datapages

AAPG 2009 Annual Convention and Exhibition – Abstracts Volume - AAPG

These are the latest to be added to the Kansas Geological Foundations Video Library and are available for check out by calling 316-265-8676 (ask for Janice) or stop by the KGS Library at 212 N. Market, Ste. 100, Wichita, KS.

Plan to Attend the KGS Annual Clay Shoot

MONDAY, October 5, 2009
Lynbrooke Sporting Clays Range

See Registration Flyer Insert in this issue
(on-line—see Events page)
Memorials

Earl Brandt

With the passing of Earl Brandt on April 21st, the Petroleum Industry lost one of its stalwarts and the community table at the Petroleum Club lost one of its regulars. Earl was born on a farm near Emerald, Nebraska, which is 6 miles west of Lincoln. His mother died when he was two years old and his father raised Earl as well as two brothers, now deceased and a sister, Nelda Soper, residing currently in Lincoln.

He graduated from nearby Malcolm High School in 1943. While at Malcolm he played on championship basketball and baseball teams. In his senior year he was State High School high jump champion. Following graduation, Earl joined the Naval Reserve and served in the South Pacific on a destroyer as a radioman. The ship was involved in the invasions of Iwo Jima and Okinawa. After serving three years he was discharged and he enrolled at the University of Nebraska, graduating from there in 1950.

His employment history began with Cities Service Oil Co. as a “jug hustler” on a seismic crew near Lovington New Mexico. Later he worked out of Lewiston, Montana. In 1951 he was transferred to Wichita and in 1952 he was once again transferred, this time to Bartlesville, Oklahoma, the home office of CSO and he also spent some time in the Oklahoma City Office. 1956 found him once again in Montana, this time as District Geologist in Billings. After two years in Billings, he spent five years in the Oklahoma City office and then resigned in 1963. While at CSO, he was responsible for the discovery of the Yagee Field on the Nemaha Ridge in Riley County.

From 1963 until 1968, Earl was Chief Geologist for Clinton Oil Company, a very active period in that company’s history. Earl then formed a partnership with Bob Clark, a former CSO landman and they operated under the name of Brandt Clark Oil. In 1970, Earl established Brandt Oil adding Brandt Drilling in 1976. At one point in time he drilled 10 wells in Northeastern Kansas in 66 days and was able to meet AFE cost on the package almost to the penny.

Earl was active in several professional organizations, including AAPG, SIPES, and KGS. He served as Nomenclature Committee Chairman for the KGS. His activity in community affairs included serving as building chairman for Ascension Lutheran Church when their new church was built.

His wife, Gerry and his sons Tim of Lawrence, Kansas, and Brad of Wichita survive Earl. Three grandchildren are also survivors. The family has designated “Victory in the Valley” as a memorial. A memorial has also been established in Earl’s name with the Kansas Geological Foundation.

Tom Wesselowski

With the passing of Tom Wesselowski on April 5, 2009, the Kansas Geological Society lost a former member and the industry, a man of many interests. Tom was born in Jewel, Kansas in 1934 where his mother was a schoolteacher and his father a businessman. He had three brothers: Dan, Walt and Tim. He attended grade school in Mankato and Beloit and then Middle School and High School in Beloit. Tom graduated from Kansas State University with a BS degree in Geology.

On September 10, 1955, he married Janet Boettcher who survives as well as their three children: Susan, a math teacher at Wichita Heights; David, a professional musician in Austin Texas; and Kirk, an engineer for Zeeco in Tulsa, Oklahoma. In his career as a geologist, Tom worked for Amoco in Houston, Raymond Oil, Rains and Williamson Oil, Chief Drilling, Viking Resources and completed his career as an Independent.

Tom had many interests outside of geology. He enjoyed motorcycling and horseback riding, but in later years competed in Track and Field. As competitor, he won 14 National Championships in masters track and field throwing events. He also won the National drug free championships in power lifting and at age 52, set a national age group record of 546 pounds in the dead-lift. Besides being a competitor, he served as a Volunteer Coach in Track and Field at Northwest High School and Friends University. The family has designated the YMCA as a memorial.

George Angle

George Angle, 85, a geologist and member of the Kansas Geological Society and AAPG, passed away August 12, 2009. No services were held.
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GEO SCENES

Karstification

The term “karstification” refers to a set of processes related to wholesale dissolution of rocks, commonly carbonate rocks and evaporites, that result in the formation of diagnostic landforms and smaller-scale features on rocks. Most karst dissolution takes place in the shallow subsurface, beneath unconformities, as a result of exposure to undersaturated fresh water, although surficial dissolution of rocks exposed at the surface also occurs. Subsurface dissolution by relatively hot, basin-derived fluids locally may create caves and caverns as well. The process of karstification also makes possible the precipitation of carbonates in open voids in the form of cave decorations such as stalactites, stalagmites, columns, and flowstone. Karst dissolution is an important process that initially creates porosity and permeability in carbonate rocks, including those that eventually may become oil and/or gas reservoirs such as in the Arbuckle and Mississippian in Kansas. The results of karst dissolution take on many forms, from creation of microscale porosity-permeability systems in rocks to larger-scale voids and cave-filling deposits, some of which are discussed herein as analogs of some oil/gas reservoirs in Kansas.

The cover photo of this issue of the Bulletin shows exposures of Osagean limestone (Reeds Spring Formation) in Missouri wherein preferential dissolution along joints and fractures resulted in the formation of open, vertical passages between remnant limestone towers. Such dissolution usually takes place in the shallow subsurface immediately beneath soil layers, and the rocks in the cover photo subsequently were exposed at the surface by later erosion (and road building). The depth to which the vertical passageways persist is indeterminate here, but it likely is just a few feet more than shown in the photograph. Such vertical passages are ready avenues for enhanced fluid flow, and they are associated with tighter capping and underlying beds without such passages. The remnant towers in the cover photo are held up by rocks with little porosity and permeability. Such relationships likely characterize some oil/gas reservoir systems in Arbuckle and Mississippian rocks in Kansas. Such systems might be manifested as wells that initially test or produce a whole bunch of oil or gas, but then don’t produce much after that.

Figure 1. Roadcut on Highway 39 north of the town of Miller, Missouri showing black sandy shale of inferred lower Pennsylvanian age filling a cave in the Osagean Burlington-Keokuk limestone. The underlying orange rock (black arrow) is rauwacke, and collapsed roof-derived clasts embedded in the shale are indicated by white arrows.
Figure 1 shows a cave in Osagean Burlington-Keokuk limestones in Missouri that appears to have formed during the latest Mississippian as it was filled by sandy shales of likely lower Pennsylvanian age. Within the shales are relatively large blocks that fell from the currently still-intact roof of the cave. The floor of the cave is limestone that has been heavily altered by dissolution, hence, it is very porous and so crumbly that it can readily disaggregated by hand. Such altered rock is sometimes referred to as “rauwacke” in the older geologic literature. Figure 2 shows an exposure that is a few miles north of Figure 1. It illustrates another cave that also formed in Burlington-Keokuk strata prior to deposition of lower Pennsylvanian rocks in the area. This cave is filled by two thick units of presumed lower Pennsylvanian sandstone separated by a thinner section of dark gray, sandy shales. The roof of the cave is thin, and it is deformed by slump into the cave below (black arrow). Note that the contact between the host limestone and the cave and cave-filling deposits is vertical. Imagine drilling a well and penetrating a few feet of Arbuckle dolomite or Mississippian limestone that is underlain by sandstone and shale. Among many other possible interpretations, one can imagine a filled cave system in such an occurrence. The roadcut exposure depicted in Figure 3, which was photographed on Highway 39 near Figure 2 in southwestern Missouri, illustrates a fairly thick section of cross-stratified, cave-filling sandstone in host Burlington-Keokuk limestone strata. The roof of the cave has been eroded here (likely by Tertiary erosion), leaving this sandstone as a “plug” in an otherwise limestone-dominated section -- another puzzling feature if encountered in the subsurface.
Finally, a newly-formed sinkhole within an Occidental Permian Inc. oil field in the Permian Basin of west Texas is shown in Figure 4. The sinkhole opened up overnight on July 28, 2009 just two miles northeast of Denver City (which is a few miles south of Plains in Yoakum County). The sinkhole measured about 200 feet in diameter and is 50 feet deep. It likely formed as a result of dissolution of underlying Permian evaporites, which shows that karstification is not always related to dissolution of carbonate rocks. The host rock in this occurrence is thick caliche (calcrete – carbonate-replaced soil) that mantles the area. Occidental shut down production as a cautionary move after the sinkhole formed. Such evaporate-related sinkholes also are present around Hutchinson, Kansas.

Submitted by Sal Mazzullo and Brian Wilhite
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Robert F. Walters
Digital Library News

On the opposite page, please see a preview of the new software for the digital library. Bullet points highlight some of the changes you will see in this new version. This is a preliminary version and there may be some changes yet to the look and feel.

When you have conducted a search, you will see the database of wells. Please notice that you can search for digital documents only or paper and digital well records. We have combined the two databases and therefore, you will be able to see all records in the Kansas Geological Society’s paper library, whether or not there is a scanned image. Once you click on a well, you will see the available documents below in thumbnails.

You will notice that the thumbnails are only the header portion of the log. Once you click on the thumbnail, the complete log will load in the window at the right. You will be able to scroll and see the complete log rather than pages of the log.

You will have the option to purchase the entire log as a TIFF file or you can purchase pages. When purchasing pages, you will be able to see the exact part of the log and where the page breaks are. You will also be able to add the header and then go down the log and attach whichever pages you need. This will be downloaded as a PDF or a TIFF file.

You will also be able to open a log or any document in a new window. That will allow you to “park” that window and then go to another document or even to another well and bring up other documents in separate windows.

This is still a work in progress and we will keep updating the information as it develops.
Robert F. Walters Digital Library News

- Search by:
  - Section-Township-Range
  - Document type
  - Operator
  - API#
  - Lease/Well name
  - Spot location

- Can see everything the Kansas Geological Society has in the paper library as well as scanned images
- Fast load speed—complete well log in seconds
- Open multiple windows to display multiple documents
- New, up-to-date well information in database

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Exploration Highlights

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

(1) Downing-Nelson Oil Company has recovered oil from three zones in the Lansing-Kansas City at the #1-23 Riedel Brothers, SE/4 of section 13- T12s- R23W, in Trego county. Operator has perforated the LKC ‘C’ zone from 3738 to 3740 ft., ‘D’ zone from 3753 to 3757 ft., and ‘J’ zone from 3877 to 3882 ft. The well is completed for 23 barrels of oil and 5 barrels of water per day. Another LKC zone from 3954 to 3990 ft. also tested promising shows but remains behind pipe. The well was drilled to a total depth of 4196 ft. Well site is located nearly three-quarters mile southeast of the Newcomer field, or three miles southeast of WaKeeney, Kansas.

(2) Larson Operating Company has discovered Cherokee oil reserves at the Whiting #2-31, SE/4 of section 31- T18s- R30W, in Lane county. The wildcat well was completed at an unknown rate on May 20, 2009. Operator found the deposits over one and one-quarter miles west of the Goering field that has produced oil since 1979 from the Lansing-Kansas City, Marmaton and Cherokee zones. Larson’s new Whiting field lies about four and one-half miles southwest of Amy, Kansas.

(3) Mississippian oil deposits have been discovered by Grand Mesa Operating Company at the Hess #1-32, spotted in the SE/4 of section 32- T13s- R31W, Gove county. The Gaeland Township pool opener was completed on May 20, 2009 at an undisclosed rate. Royal Drilling tools bottomed the well at a total depth of 4700 ft. discovery site is located over two miles east of the established Maurice (Marmaton oil) field, and is twenty miles southwest of Gove, Kansas.

(4) EOG Resources, Inc. has opened the new Center West Mississippian oil field in Stevens county. The Bane #28-1 was completed on May 15, 2009 for an unknown amount of oil at site located in the SW/4 of section 28- T33s- R37W, one and three-quarters miles south of Hugoton town site. The well was drilled to a total depth of 6610 ft. by Kenai Mid-Continent tools.

(5) Murfin Drilling Company has discovered new pay horizon within the recently established Funky Town West oil field in Logan county. Murfin opened the previously all Mississippian oil field with the completion of their #1-25 Gary, located in the SW/4 of section 25- T12s- R33W. The pool opener has produced over 9,000 barrels of oil since being placed on the pump in mid November last year.

(6) In February this year, Murfin drilled the #1-25 Stoecker Unit as a northeast stepout in the NE/4 of section 25. The well is on pump making an estimated 30+ barrels of oil per day from undisclosed depth in the Johnson Zone formation of the Cherokee. Rotary total depth is 4715 ft. Field area is located about nine miles southeast of Monument, Kansas.

(7) In Thompson county, Murfin Drilling Company has expanded Lansing-Kansas City oil production in the Towns field. The #1-21 L. R. Frahm, spotted in the SE/4 of section 21- T10s- R34W, was drilled to a total depth of 4830 ft. at site located nearly one-half mile south of infield producers. The stepout well has produced over 3,074 barrels of oil since February this year.

Oneonta Resources, LLC
Michael Bradley
518 17th Street, Ste 1000
Denver, Colorado 80202
Kanssas 3-D Projects
Phone: 970-222-7530
Fax: 303-374-7912
lonetree9@earthlink.net

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and is averaging 50+ barrels of oil daily. The well lies ten miles northwest of Monument, Kansas.

(8) Additional information has been released on Presco Western LLC’s #3-C (14-30-33) Tice Cattle which discovered Morrow gas reserves and established the new Tice field earlier this year. Located in Haskell county, in the NW/4 of section 14- T30s- R33W, the pool opener was completed as flowing 361 Mcf gas and 12 barrels of water daily from Morrow perforations at 5391 to 5396 ft. Log top of the Morrow was called at 5249 (-2304 kb). The new field lies over one and one-half miles northeast of the multipay Victory field, and is four and one-half miles east of the city of Satanta, Kansas.

(9) Palomino Petroleum, Inc. is pumping 105 barrels of oil with only a trace of water at the Dixon Trust #1, located in the NE/4 of section 20- T17s- R25W, in Ness county. The Lazy 17 East field stepout and development well found new source of oil supply in the Marmaton (Fort Scott) formation at a depth from 4337 to 4341 ft. Top of the zone was logged at 4336 (-1851 kb). Logger’s total depth reached 4572 ft. The field was originally established by Red Oak Energy last year when oil deposits were discovered in the Mississippian formation. Field area lies about six miles southwest of Arnold, Kansas.

(10) In Barton county, just south of the city limits of Olmitz, Mai Oil Operations has discovered Lansing-Kansas City oil deposits at the Hildreth #1. The new Hildreth pool opener was completed in mid-June at an undisclosed rate in the SW/4 of section 1- T18s- R15W. Site lies over three-quarters mile southeast of known production in the Olmitz South field.

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