South Midcontinent Region PTTC

Regional Update

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Petroleum Technology Transfer Council (PTTC)
South Midcontinent Region

Oklahoma Geological Survey
Regional Lead Organization
Dr. Charles J. Mankin
PTTC Program Manager
Director, OGS

Mary K. Banken
PTTC Computer-System Mgt.
Geo Information Systems

Elizabeth A. Fajen
PTTC Technology Transfer
Marginal Wells Commission

Mac Alloway
PTTC PAG Chair
Tony Oil Co.

Sam Farris, MWC
Education Coordinator
Connie G. Smith, OGS
Information, Newsletter, Web
Michelle J. Summers, OGS
Workshop Coordinator
Jane L. Weber, OGS
Computer Facility Supervisor

Oklahoma Geological Survey
100 E. Boyd, Rm. N-131
Norman, OK 73019-0628
e-mail: ogs@ou.edu

405/325-3031; 800/330-3996
Fax 405/325-7069
Publication Sales: 405/360-2886

Internet address
<http://www.ou.edu/special/ogs-pttc>

Cherokee Workshop Meets May 14-15

Finding and Producing Cherokee Reservoirs in the Southern Midcontinent meets at the Meridian Convention Center in Oklahoma City on May 14 and 15. The papers and poster sessions scheduled for the meeting are designed to identify practical techniques and technology to help find new hydrocarbons and efficiently produce more oil from existing fields. This workshop is co-sponsored by the National Petroleum Technology Laboratory of the U.S. Department of Energy, along with cooperation from PTTC, and is the 15th in the annual series of petroleum-based workshops organized by the OGS.

These important Cherokee sandstones produce across most of the state and are responsible for approximately 15% of the gas and more than 50% of the oil found thus far. So don't miss this informative meeting!

The workshop will consist of approximately 20 oral papers, 15 poster sessions, and 10 commercial exhibits. Thirty minutes will be allotted to each presentation, including questions. Extra time will be set aside after the sessions to insure that all issues are addressed. A sample of planned papers includes:

Red Fork Sandstone of Oklahoma; Depositional History, Sequence Stratigraphy and Reservoir Distribution, *by Richard D.* **FRITZ**, *American Association of Petroleum Geologists, Tulsa, OK, and Edward A.* **BEAUMONT**, *Consultant, Tulsa, OK*

A Deposition and Reservoir Model for the Prue Sandstone in the Southwest Oklahoma City Area, *by John R.* **BROKER**, *Helmerich and Payne, Inc., Tulsa, OK, Les J.* **BROKER**, *Consultant, Edmond, OK, and Thomas N.* **CAPUCILLE**, *Consultant, Edmond, OK*

The East Clinton Gas Field A Seismic-Stratigraphic Case Study, *by Richard E.* **SCHNEIDER**, *Schneider Strata Science, Inc., Oklahoma City, OK*

Gas in an Incised Valley, Upper Cherokee Age, Eastern Kansas, *by William T.* **STOECKINGER**, *Geological Consultant, Bartlesville, OK*

Dipmeter Navigation of the Location and Orientation of a Cherokee Sandstone Reservoir; A Kansas Case Study, *by John H.* **DOVETON**, *Kansas Geological Survey, Lawrence, KS*

Red Fork Production in the Cherokita and Wakita Trends in Grant and Alfalfa Counties, North-Central Oklahoma; Is the Reservoir a Fluvial Incised Channel or Marine Shoreline System, and Who Cares?, *by Richard D.* **ANDREWS**, *Oklahoma Geological Survey, Norman, OK*

Development of Transition Zone Reserves Around Abandoned Production, A Case Study of Mount Vernon Field, Lincoln County, Oklahoma, *by David* **CHERNICKY** *and Scott T.* **SCHAD**, *Chernico Exploration, Tulsa, OK*

(see WORKSHOP—page 4)

Paraffin Problems and Hot Oilers

Bottom Line: Hot oilers have been used extensively to melt paraffin off rods and tubing in high paraffin producing wells. Paraffin begins to come out of solution and deposit on tubulars as the wellbore temperature drops over time and production.

Problem: A widespread practice is to dump heated crude down the annulus. This process has been shown to plug perforations, pore spaces, and completely block near well-bore rock.

Solution: Several products are available on the market today. Xylene is the most common. However, this is usually expensive and has been known to precipitate solids in some formations. A new product with potential for treating paraffin problems has been showing up under several trade names. Modified Sodium Silica Polymer was first used to strip oil out of cotton fibers and later was approved by the FDA to strip oil out of peanuts. Someone treated a paraffin problem in an oil well and experienced favorable results. Actual research by major chemical companies is very limited, if nonexistent. As more treatments are done using this product, more documentation will come forth.

Another product that shows much promise is PEC, which is marketed by a company in Houston. They have generated the longest, most complete documentation of results of any company or product in recent months.

Sam Farris
Technology Transfer Coordinator,
Marginal Well Commission of Oklahoma

Naturally Fractured Reservoirs Conference

The Mewbourne School of Petroleum and Geological Engineering at the University of Oklahoma and the Oklahoma Geological Survey have scheduled a Naturally Fractured Reservoir Conference to be held in Oklahoma City June 3-4, 2002. This conference will focus on exploration and production issues related to efficiently developing and producing naturally fractured reservoirs.

The conference is designed to bring together geoscientists, engineers, and operating personnel to share the latest technology and experiences for exploiting naturally fractured reservoirs.

Sponsors for the meeting are Phillips Petroleum, Kerr-McGee, Anadarko Petroleum, Marathon Oil Co., and EOG Resources. This gathering provides an open forum for an interdisciplinary exchange of information and presentation of state-of-the-art technology for producing naturally fractured reservoirs.

The two-day conference will be held at the Meridian Convention Center in Oklahoma City and will feature technical presentations covering a variety of issues including seismic interpretation, reservoir description, formation evaluation, matrix to fracture flow mechanisms, and reservoir performance of naturally fractured reservoirs.

Technical program and registra-

(see RESERVOIRS— page 4)

PUMP Update

PUMP (Preferred Upstream Management Practices), the two-year federally-funded project designed to help operators maximize their oil production and profits, is moving along on two fronts.

Petroleum Technology Specialists Cranston Flesher (Oklahoma) and "Hamp" Bussey (Arkansas) have been out in the field, meeting face-to-face with producers in an attempt to identify activities beneficial to improving the bottom line.

Meanwhile, responses to the "Constraints on Oil Production in Oklahoma and Arkansas" questionnaire are being tabulated and studied to gain further insight into the problems and restrictions facing the independent operator. While more than 70 survey responses have been received to date, we encourage you to continue to send us your comments on this issue. In particular, we would like to hear about a practice or approach that enabled you to overcome or, at least, improve a specific problem limiting your production.

Contact Cranston at 405/359-7793; Hamp at 870/693-5757; or Oklahoma Geological Survey staff at 405/325-3031 or 800/330-3996.

Don't forget the Marginal Well Commission's Trade Fair in Tulsa, June 14 at the Expo Center!

Upcoming Events

April

4/9	Asphaltenes & Paraffin Problems, Duncan, *MWC, PTTC
4/10	Asphaltenes & Paraffin Problems, Oklahoma City, *MWC, PTTC
4/11	Asphaltenes & Paraffin Problems, Tulsa, *MWC, PTTC
4/16	SPE/DOE Symposium on Improved Oil Recovery, Tulsa, OGS, PTTC, more information at <http://www.npto.doe.gov/ior>; or fax 918/699-2048
4/23	Bartlesville Play Workshop, Oklahoma City, *OCGS, OGS, PTTC
4/25	Bartlesville Play Workshop, Tulsa, *TGS, OGS, PTTC

May

5/2	Legal & Regulatory Issues as Related to Oil & Gas, Duncan, *MWC, PTTC
5/9	Legal & Regulatory Issues as Related to Oil & Gas, Oklahoma City, *MWC, PTTC
5/14-15	Finding and Producing Cherokee Reservoirs in the Southern Midcontinent, Oklahoma City, *OGS, DOE, PTTC
5/16	Legal & Regulatory Issues as Related to Oil & Gas, Woodward, *MWC, PTTC
5/21	Legal & Regulatory Issues as Related to Oil & Gas, Tulsa, *MWC, PTTC

June

6/3-4	Petroleum and Geological Engineering Symposium, Oklahoma City, *OGS
6/14	Trade Fair, Tulsa, *MWC, PTTC
6/19	Red Fork Play Workshop, Oklahoma City, *OCGS, OGS, PTTC
6/20	Red Fork Play Workshop, Tulsa, *TGS, OGS, PTTC
6/24-25	Practical Reservoir Characterization for the Independent Operator, Norman, *OGS, PTTC

August

8/5	Plunger Lift Operations, Duncan, *MWC, PTTC
8/6	Plunger Lift Operations, Oklahoma City, *MWC, PTTC
8/7	Plunger Lift Operations, Tulsa, *MWC, PTTC
8/8	Plunger Lift Operations, Woodward, *MWC, PTTC

September

9/5	OCC/OTC Forms for Oil and Gas Operations, Duncan, *MWC, PTTC
9/12	OCC/OTC Forms for Oil and Gas Operations, Oklahoma City, *MWC, PTTC
9/18, 19	Identification, Correlation of Methane-Producing Coal Beds, Northeast Oklahoma Shelf, Tulsa, OGS, *TGS, PTTC
9/19	OCC/OTC Forms for Oil and Gas Operations, Tulsa, *MWC, PTTC
9/24	Identification, Correlation of Methane-Producing Coal Beds, Northeast Oklahoma Shelf, Oklahoma City, OGS, *OCGS, PTTC

*OGS=Oklahoma Geological Survey, 405/325-3031 or 800/330-3996
*MWC=Marginal Wells Commission, 405/366-8688; 800/390-0460
*GIS=Geological Information Systems, 405/325-3131
*OCGS=Oklahoma City Geological Society 405/236-8086 or 405/235-3648, ext. 40
*TGS=Contact Richard Piqune, 918/582-2690

Proceedings Published

Two new OGS publications provide a wealth of information on Southern Midcontinent geology and petroleum reservoirs of Pennsylvanian and Permian age, as well as Silurian, Devonian, and Mississippian.

Both books contain oral papers and poster sessions of workshops sponsored by OGS and the U.S. Dept. of Energy, National Petroleum Technology Office in Tulsa.

Circular 104, *Pennsylvanian and Permian Geology and Petroleum in the Southern Midcontinent, 1998 Symposium*, incorporates twenty-two talks and posters, either as full papers or extended abstracts, in a 233-page book. An additional eight talks and posters are given in abstract form.

Circular 105, Silurian, Devonian, and Mississippian Geology and Petroleum in the Southern Midcontinent, 1999 Symposium, contains fifteen talks and posters presented in 179 pages as full papers or extended abstracts, and eleven others included as research reports. Topics include, depositional settings, diagenetic history, sequence stratigraphy, reservoir characterization, exploration, petroleum production, and enhanced oil recovery.

Both books are softbound in 8 ½" x 11" size. Circular 104 is $15, plus $3 postage, while Circular 105 sells for $11, with $2.20 postage.

WORKSHOP—*continued*

Dan Boyd, OGS petroleum geologist, is coordinating this year's workshop. Phone him at 405/325-3031; e-mail him at dtboyd@ou.edu.

The registration fee is $60 per participant until May 6, after which it is $70. The registraion fee includes all lunches and break snacks, and a copy of the technical program (to be published later this year).

RESERVOIRS—*continued*

tion details for the conference are being finalized and will be available on the website of the Mewbourne School of Petroleum and Geological Engineering at http://www.ou.edu/mewbourneschool.

Fees for the two-day conference will be approximately $75 and include lunch on both days of the conference. The Meridian Convention Center is located near Will Rogers World Airport in Oklahoma City and overnight accommodations are available nearby. Additional information may be obtained by contacting conference chair Michael L. Wiggins at 405/325-6781 or mwiggins@ou.edu. Planned papers include:

Geologic and Fluid Pressure Histories of the Midland Basin: Evaluation of Forces Responsbile for Fracturing
Brian McPherson and David Boutt, New Mexico Tech

The Origin of Natural Fracturing
Parker Gay, Applied Geophysics

Integrating NMR, Neutron-Density, and Resistivity Logs to Detect Natural Fractures
Witsarut Thungsuntonkhun and Tom Engler, New Mexico Tech

Improving Waterflood Performance in the Naturally Fractured Spraberry Trend Area
Tanvir Chowdhury, Goke Dabirir, Erwinsyah Putra, and David Schecter, Texas A&M

Improving Waterflood and CO2 Pilot Performances in the Naturally Fractured Spraberry Trend Area, West Texas
David Schecter, Erwinsyah Putra, Bill Knight, Paul Leonard, and Richard Baker, Texas A&M, Pioneer Natural Resources, Epic Consulting Services

Investigating the Sensitivity of Input Data on the Quality of Fracture Network Realizations
Matthew Herrin and Lawrence Teufel, New Mexico Tech

Modeling Coupled Fracture-Matrix Fluid Flow in Geo-Mechanically Simulated Fracture Networks
Zeno Philip, Jim Jennings Jr, Jon Olson, and Jon Holder, U. of Texas and the Bureau of Economic Geology

Transcending Conventional Log Interpretation – A More Effective Approach for Spraberry Reservoir
Dicman Alfred, Erwinsyah Putra, and David Schechter, Texas A&M

Characterization and Fluid-Flow Simulation of Naturally-Fractured Tight-Gas Sandstone Reservoirs
Lawrence Teufel, New Mexico Tech

Integration of 3-D Seimsic, Well Test, and Core Data to Simulate Permeability Descriptions
Harun Ates, Asnul Bahar, and Mohan Kelkar, U. of Tulsa

Advantages and Disadvantages of Different Methods for Assessing Natural Fractures in the Raton Basin of Colorado and New Mexico
Christopher Rautman, Scott Cooper, Bill Arnold, Paul Basinski, Thomas Mroz, and John Lorenz, Sandia National Labs, El Paso Production, and NETL

Models for Interporosity Flow in Naturally Fractured Reservoirs
Gherson Penuela, Faruk Civan, Richard Hughes, and Michael Wiggins, U. of Oklahoma

A General Model for Fracture Compliance and Permeability
Raymon Brown, Oklahoma Geological Survey

Frequency-Dependence of Fractured Reservoirs
Evgeni Chesnokov and Raymon Brown, U. of Oklahoma and Oklahoma Geological Survey

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