



Regional Update

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South Midcontinent Region**

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Geological Survey's Well-Log Library Moves into New Quarters at OPIC

The Oklahoma Geological Survey's Well-Log Library is now open in its spacious new quarters in the Oklahoma Petroleum Information Center (OPIC) in north Norman. OPIC units are coming together in what soon will be the largest petroleum information center in the country.

"When OPIC is complete next year, it will house all OGS petroleum records and publication sales," said Dr. Charles J. Mankin, OGS director and South Midcontinent PTTC program manager. "After our core collection is moved here next year and the core-analysis facility, x-ray scanner, and other analytical facilities are installed, it truly will be 'one-stop shopping' for petroleum information."

"The data that we have compiled and those that we will receive during the next few years will provide valuable information for operators for the next several decades of activity," he notes. "In addition, the data contained could be the source of literally hundreds of theses and dissertations."

OPIC even will have offices available for rental by the day for visitors who want to examine data in private. A separate conference facility located across the street will be available to house workshops, conferences, and other meetings for OGS, PTTC, and other groups.

While the work of acquiring, staffing, funding, and consolidating the collections contained in OPIC is a daunting task, Mankin has tackled the project with his characteristic enthusiasm and humor.

"For the foreseeable future, energy resources have to be a major component of Oklahoma's economy," he says, "and OPIC can make an important contribution to that endeavor."

The center opened officially last November, with a dedication



Michael J. Mercer, manager of the OGS log library, gets the collections settled into OPIC.

(see *OPIC*—page 4)

Produced Water and Associated Issues: A Manual and Workshop

The South Midcontinent Region sponsored two successful workshops in Enid and Pawhuska on January 21 and 22, marking the beginning of the tech transfer phase of the DOE PUMP (Preferred Upstream Management Practices) project. The workshops, *Produced Water and Associated Issues*, were based on a manual of the same name developed by the PTTC South Midcontinent Region. Workshop leaders discussed practical ways to deal with different produced-water issues that occur throughout the life of a well. Key questions addressed were: Is your well producing more water than it has to? Do you know accepted techniques to reduce water production? Are your lifting costs under control? Presenters Rodney Reynolds, PTTC North Midcontinent Region Director, and Bob Kiker, PTTC Texas Permian Basin Program Director, also authored the manual. Both are petroleum engineers with many years of field experience.

PUMP Identifies Problems

The purpose of the two-year PUMP program, now in its final year, was to identify constraints to oil production in Oklahoma and Arkansas, determine practical techniques to resolve those problems, and disseminate that information to independent oil producers. An operator survey conducted early in the program revealed that produced water was a major problem for producers in those two states. To address that topic with documented economical and proven practices, a concise manual was written. This manual now serves as the basis for a series of workshops being given throughout the South Midcontinent Region.

Workshops Begin

The Enid and Pawhuska workshops were the first of four on produced water coordinated by the Oklahoma Commission on Marginally Producing Oil and Gas Wells (MWC). The MWC emphasizes providing real-world information to marginal well operators. They scheduled two more workshops in Ardmore and Okmulgee.

The workshop began with Reynolds making brief comments on the purpose and makeup of the PTTC. He followed that with an introduction to the scope of issues related to produced water and the rationale for writing the "Produced Water and Associated Issues" manual.

Each section of the manual was then discussed in detail.

Basic Properties, Data Management

For the first section on "Basic Properties and Data Management," Reynolds explained rock and reservoir properties, stressed the importance of record keeping, and showed examples of different plots operators can make to assist themselves in understanding what's happening in their wells. Under Well Completion and Its Impact on Water Production," he discussed advantages and disadvantages of different types of well completions and fracturing techniques. "Dealing With High Water

Production During Primary Production" concentrated on the use of gelled polymers and case studies.

Corrosion and Wear

Kiker then took the podium to talk about "Corrosion and Mechanical Wear on Equipment." This section touched on topics as wide-ranging as the preferred metallurgy of tubing, sucker rods, and pumps; the "pay me now or pay me later" philosophy of equipment care and repair; and successful approaches used by large companies to reduce their well failure rate. Attendees were

particularly interested in details of Schlumberger IPM's program that reduced well failure frequency averages by almost a factor of 10 over a 10-year period.

Water Production

Next, in "Dealing With Water Production During Waterfloods," some of the items Reynolds dealt with were water quality, use of chemical tracers to follow water movement, and use of gelled polymers to increase sweep efficiency. He presented case studies for the polymer work. Reynolds continued with "Unexpected Increases in Water Production," which included methods to identify sources and remedial actions to take in the form of squeezes or patches.

Reducing Lifting Costs

Kiker then focused on "Reducing Lifting Costs," offering many experience-based tips and outlining a series of simple steps for the operator to follow. He emphasized the need to continually track power usage and costs because operating conditions are always changing. He also covered power generation and downhole water separation.

(see PUMP—page 4)

Key questions addressed:

- ✓ Is your well producing more water than it has to?
- ✓ Do you know accepted techniques to reduce water production?
- ✓ Are your lifting costs under control?

Upcoming Events

February

- 2/13 Measurement Problems with Electronic Gas Metering, Oklahoma City, *MWC, PTTC
- 2/18 Produced Water and Associated Issues, Ardmore, OK, *MWC, OGS, PTTC
- 2/19 Produced Water and Associated Issues, Okmulgee, OK, *MWC, OGS, PTTC
- 2/20 Measurement Problems with Electronic Gas Metering, Tulsa, *MWC, PTTC
- 2/20 Produced Water and Associated Issues, Oklahoma City, OGS, PTTC, *SPE (contact Tia Johnson 405/720-5527; speokc.org; tsjohnson@marathonoil.com)
- 2/27 Measurement Problems with Electronic Gas Metering, Woodward, *MWC, PTTC

March

- 3/5 Produced Water and Associated Issues, Smackover, AR, *OGS, PTTC
- 3/6 Production Equipment Operations, Elk City, *MWC, PTTC
- 3/11 GIS Day at the Capitol, Oklahoma City, (contact Shelly Willoughby 405/521-4828; shelliew@okcc.state.ok.us)
- 3/12 Spill Prevention Controls and Countermeasures, Wichita, KS, *MWC, PTTC
- 3/13 Production Equipment Operations, Oklahoma City, *MWC, PTTC
- 3/20 Produced Water and Associated Issues, Tulsa, OGS, PTTC, *SPE (contact Rodney Tate, 918/588-7715; rtate@oneok.com)
- 3/20 Production Equipment Operations, Tulsa, *MWC, PTTC
- 3/27 Production Equipment Operations, Enid, *MWC, PTTC

April

- 4/na Produced Water and Associated Issues, Norman, *OGS, PTTC

May

- 5/8 2003 Marginal Well Trade Fair, Oklahoma City, *MWC

June

- 6/19-20 Interpreting Reservoir Architecture Using Scale-Frequency Phenomena, Oklahoma City, *OGS, Sarkeys Energy Center

August

- 8/7 Applied Geology for the Petroleum Engineer, Norman, *OGS, PTTC

October

- 10/22 Cromwell Play Workshop, *OGS, PTTC

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*MWC=Marginal Wells Commission, 405/604/0460; 800/390-0460; twise@marginal.state.ok.us; www.marginal.state.ok.us

PUMP—continued

Program Comments

A total of 20 industry personnel, 11 in Enid and 19 in Pawhuska, attended the workshops. Representative comments from participants indicated the workshops offer something for everyone. Jimmy Turnini, a recent graduate employed by Continental Resources in Enid, said he was looking for any way to learn more about the industry. The fact that the workshop was offered just a few blocks away was too good to pass up.

Randy McGuire of M & V Resources, a one-man company, termed the meeting "fast-moving." He was particularly interested in hearing about The GasGun™, a relatively new solid-propellant tool.

John Collins, from Combined Resources, said there was "a warehouse of information packed into a small booklet" (referring to the manual). Glen Ferguson, with

Lamamco Drilling in Skiatook, said the workshop was "one of the better ones I've been to." He further commented that since Lamamco is involved in a lot of waterfloods, the workshop material and manual can provide ideas of things the company might try.

The meeting ran from 9:30 a.m. to 3:30 p.m. The registration fee of \$15 covered the cost of sessions, a copy of the manual, lunch, and coffee breaks. For other scheduled workshops on *Produced Water and Associated Issues*, check the calendar in this newsletter.

Additional copies of the manual, OGS Open File Report 6-2003, are available for \$2 plus postage from the OGS Publication Sales Office 405/360-2886 or ogssales@ou.edu. The compact 83-page booklet can easily be tossed into your vehicle for use in the field.

For further information on the workshops, the manual, or the PUMP project, contact Jane Weber at 405/325-3031; 800/330-3996; or jlweber@ou.edu.

OPIC—continued

ceremony for the BP America core collection and the opening of the OGS Publication Sales Office at OPIC. In less than three months, the Log Library is now open for business as well.

The OGS Well-Log Library is the State's official repository for 5-inch scale logs from more than 367,000 wells, as well as completion cards and 1002A forms, making it an important component of OPIC.

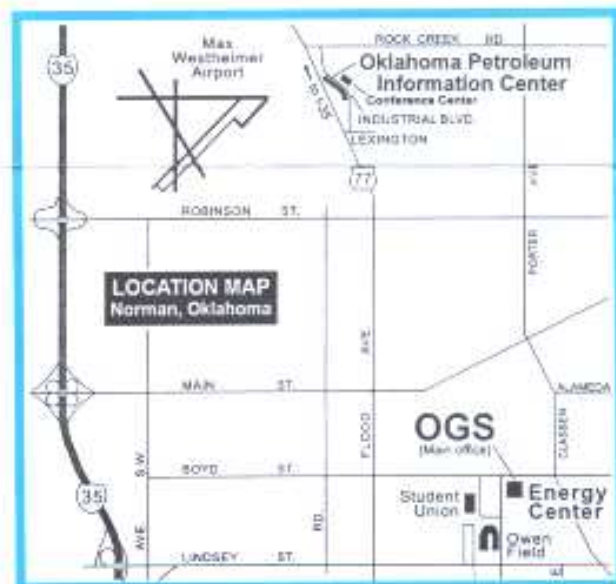
This important collection of drilling records contains two full sets of completion cards containing handwritten tickets from as early as the "teens" of last century forward. Paper logs fill more than 600 file cabinets and more donations come to the center on a regular basis. According to Mike Mercer, manager of the library, the facility receives somewhere between 4 and 12 boxes of logs per month from the Oklahoma Corporation Commission. The Commission scans the logs then sends the original records to be filed with the Survey.

The library also houses aerial photos, known as the Melton Collection, which are sorted by county, township, and range rather than section, township and range. These photos provide an important historical record of Oklahoma, and are a legacy that now will be more useful because of the increased space and better access at OPIC.

"We've just begun, but we are moving forward with amazing speed on this project," Mankin said. "Our core holdings to date exceed 250,000 boxes, with approximately 100,000 from the OGS collection and more than

140,000 from BP. We have something in excess of 150,000 boxes of samples, including the Shawnee sample cut collection, OGS holdings, and those from Mobil. In addition to these items, I expect that other significant donations will be forthcoming in the near future."

If you are in Norman, stop by for a visit and a tour. Keep watching for updates as this remarkable facility comes together at the Oklahoma Geological Survey.



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