



October 2003

Los Angeles Basin Section Newsletter

Welcome Message From New Section Chairman

Your LASPE just completed a very successful year under the leadership of Mike Bruno assisted by LASPE's board of directors, officers and chairpersons. With the Pacific Section of AAPG, we hosted an excellent Western Regional Meeting transferring technology to our members through 60 SPE papers and poster sessions, two panel discussions and informative vendor exhibits. This excellent meeting was co-chaired our own Sam Sarem. Last year, we awarded scholarships to 9 graduate and undergraduate engineering students at USC and CSULB. Two scholarships were awarded to SPE member's children graduating from local high schools. We visited elementary schools explaining our industry to enthusiastic students and helped their schools with cash contributions. LASPE hosted field tours for high school math and science teachers during the WRM and helped with funding. Our members served as judges at science fairs in Los Angeles and Orange counties. Informative talks at our monthly Petroleum Technology Forum facilitate technology transfer and networking opportunities.

Our program for 2003 – 2004 will continue to serve our local industry and members. You can be a part of the process. The core program of scholarships, technology transfer and community outreach is in place, but LASPE is always open to new ideas and new participants. Next year's golf tournament fundraiser, scheduled for June 18, 2004, is being organized and run by LASPE members. Please join us at our board meetings scheduled on the second Tuesday of each month in conjunction with the Petroleum Technology Forum. Volunteers are always welcome to participate in planning and to work with chairpersons.

The structure of the petroleum industry in the LA Basin is evolving rapidly and you can participate in the evolution of LASPE by joining us. Take a look at LASPE's website at www.laspe.org to view our set-up. There you will find current activities, a job board and links to industry websites. You will also find a listing of board and chair positions and a list of officers. You may contact any of these people with your ideas and suggestions or to volunteer to work with them.

Rick Finken, 2003 – 2004 Chairperson

October SPE Petroleum Forum

- DATE:** October 14, 2003
TIME: 11:30 am – Social
12:00 pm – Lunch
12:30 pm – Presentation
- PLACE:** Long Beach Petroleum Club
3636 Linden Avenue
Long Beach, CA
- COST:** \$15.00 General; \$5.00 Students
- SPEAKER:** **Andrew Wojtanowicz**
SPE Distinguished Lecturer
Louisiana State Univ.
- TOPIC:** **Downhole Water Separation**

Summary:

The During the economic life of a producing field, the volume of produced water may exceed the volume of hydrocarbon produced by 10 times. During late stages of production, it is not uncommon to find that produced water can account for as much as 98% of the extracted fluids. Historically, the average worldwide water cut is 75%, while the average water handling Opex cost to the oil industry is \$0.50 per barrel of water, amounting to \$40 billion total.

Since the conventional process of fluid separation is energy intensive and very costly, the industry has searched for innovative techniques that would move the separation upstream the production process, i.e. to the wells' bottom, or even back to the reservoir.

The presentation will introduce modern technologies for separation of water in oil and gas wells. In principle, these techniques fall into one of two categories: bottomhole separation and separation in situ. The bottomhole separation

techniques utilize separation inside the well. Discussion will include bottomhole systems based on gravity separation of gas and water (modified plunger, bypass tool, ESP) and gravity separation of oil and water-dual/triple action pumping (DAPS/TAPS), hydraulic submersible pump (HSP), and horizontal gravity separator (HSep). The discussion will include field performance and several case histories, since some of these systems have been successfully commercialized.

Also presented will be the downhole oil water separation (DHOWS) technology using bottomhole mechanical separators-hydro cyclones with or without ESP. The presentation will discuss downhole installation and completion aspects of these techniques as well as the limitations of hydro cyclones as separation devices. Several case histories of DHOWS demonstration projects will be also presented.

The final part of the presentation will concern a dual-completion technology using in-situ separation of water from oil or gas in the reservoir outside a producing well (downhole-water-sink technology, or DWS). In DWS wells, the second (bottom) completion is used for draining water in order to maintain the well's potential for production of oil/gas from the top completion. Explained will be principles of DWS well performance in the bottom water and edge water reservoirs. A case history will show details of downhole installation and production data. Also discussed will be the comparison of DWS with conventional wells and incremental recovery due to the technology.

Biography:

Andrew K. Wojtanowicz is the Texaco-endowed Environmental Chair in Petroleum Engineering at Louisiana State U. and U.N. expert in drilling engineering. He has worked in the petroleum industry as a drilling engineer, drilling supervisor, and drilling fluids technologist in Europe and Africa. Wojtanowicz has held faculty positions at three universities and conducted research in drilling, completion, and production operations with emphasis on environmental effects and prevention techniques. His studies are reported in 180 publications and four books. He is an Editor-in-Chief of ASME Transactions Journal of Energy Resources Technology and a registered petroleum and environmental engineer in Louisiana. As a Conoco Environmental Research Fellow '91/92, he developed dewatering technology for closed-loop drilling systems. He has also developed water coning-control technique with Downhole Water Sink (DWS) well completion, for which he received Special Meritorious Award for Engineering Innovation in 1996. He has directed a DWS Joint Industry Project at LSU since 1997.

For additional information, please contact:

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Nominations to the Board

The Board of Directors has nominated Rick Finken to serve as Chairperson and Vivian Bust and Scott Hara to server as Directors. The general membership may present alternative nominations. We encourage and welcome all volunteers.



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