

# San Joaquin Geological Society

Date: Tuesday, November 8, 2011

- *Time:* 6:00 PM Social Hour 7:00 PM Dinner 8:00 PM Lecture
- Place: American Legion 2020 H St. Bakersfield, CA 93301

PSAAPG Members & Mesozoic's \$25 w/reservation \$30 without reservation

Non PSAAPG Members \$30 w/reservation

Full-time Students with ID: Free, Courtesy of Chevron & Occidental

## SJGS WEBSITE

http://www.SanJoaquinGeolo gicalSociety.org/

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By: Friday, November 4, 2011 Reply to this email By phone 654-7005

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## Applying Improved Methodology to Produce Kern River's Remaining 1.5 Billion Barrels

## Jerry McNaboe

Senior Staff Earth Scientist, Kern River Asset Development Team; Chevron SJVBU/CNAEP Jerry has 31 years of experience working in the oil industry. He started working in the San Joaquin Valley with Getty Oil Company, moved to Saudi Arabia with Aramco, transferred to Duri, Indonesia with Caltex, then to Kuwait with Saudi Arabian Texaco, and back to the San Joaquin Valley with Chevron. Jerry has been working in the Kern River Field since 2003.

## Heidi Hoffower

Earth Scientist, Kern River Asset Development Team; Chevron SJVBU/CNAEP

Heidi has 9 years of experience in the oil industry at Chevron and ExxonMobil, where she has worked on global New Ventures, Exploration, Development, and Business Analysis projects. She has been working the Kern River Field since 2008.

With daily Chevron net production of 73,500 BOPD (3rd Quarter 2011 average), Kern River Field is the single largest producing asset in Chevron North America. Since its discovery in 1899, the Kern River Field, with an estimated 3.5 billion barrels of OOIP, has produced over 2.0 billion barrels of oil. Most of this oil is heavy and has been produced with vertical wells through a combination of primary and thermal enhanced recovery in the shallow Kern River formation.

To sufficiently monitor remaining oil and reservoir conditions, surveillance wells have been drilled and are logged on a regular basis. These data are integrated into a lithologic framework to create a full-field 3D earth model. This earth model, one of the largest in our industry, forms a basis for Kern River reserves estimation, new opportunity identification and prioritization, and depletion monitoring. This 3D model has also illuminated the remaining incremental oil opportunities available – prime targets for horizontal infill wells.

In hopes of mitigating field-wide production decline, Kern River has placed an emphasis on drilling horizontal infill wells. Unlike vertical wells, horizontal wells are able to target the remaining oil at the base of single sands and as a result are increasing oil recovery and delaying the Kern River decline. As of September 2011, the almost 300 horizontal wells are producing over 16,000 BOPD and have cumulatively produced over 14 Million Barrels of Oil. One well, producing 650 BOPD, is the largest producer in the history of the field. While there are numerous technical challenges in drilling horizontal wells in shallow, unconsolidated sediments, advances in drilling technology and methodology have enabled drilling of the shallowest horizontal wells in Chevron opening up further remaining opportunities.