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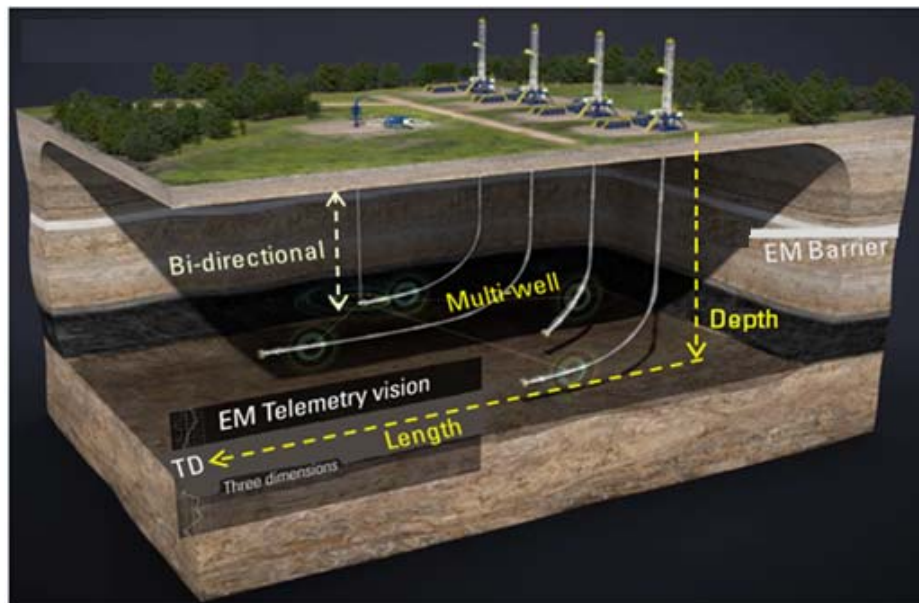
January 16, 2018 6:00 PM

Elevation 66 in El Cerrito

Electromagnetic Telemetry: Current Status and New Developments

Abstract: EM telemetry is one of most commonly used four communication tools for transmitting drilling mechanics and formation evaluation information uphole, in real time, as a well is drilled, to surface in measurement-while-drilling (MWD) and logging-while-drilling (LWD). Compared to other three telemetry tools, i.e., mud pulse, acoustic, and wired-drill pipe, EM telemetry provides significant advantages and benefits such as relatively low cost, relatively high data transmission rate, tolerance of lost circulation material (LCM), and rig independent EM-downlinking. Consequently it enjoys reduced rig-time, and low cost of service delivery.

This talk will focus on the fundamentals in EM telemetry, covering the basic principles, noise distribution, EM signal prediction, as well as real case examples. Special attention will be paid to the recently developed game-changing technology: Deep Electrode (DE), and its corresponding requirements from 3D numerical modeling's perspective.



Schematic of 3D EM telemetry in a drilling pad.

Speaker Bio:



Jiuping Chen is a Principal Geophysicist at Schlumberger-Katy Technology Center, Houston, working on electromagnetic telemetry. He obtained his PhD in Geophysics from Macquarie University, Sydney, Australia, in 1999 and held postdoc and research associate position at the University of British Columbia in Vancouver, Canada. In 2004, he joined Schlumberger-EMI Technology Center in Richmond, California, and since then has been working on EM applications in the oil and gas industry.