

Monday February 7th

2010-2011 SPE Distinguished Lecturer

High End Coiled Tubing Evolution: The Last and Next Ten Years

Lance Portman, BJ Services Company

Coiled tubing (CT) remains, at its simplest, a "hose" that can be run quickly in and out of a well, while circulating fluids, against live well pressure where necessary. It is true that the coil equipment has evolved substantially over time in reliability and size. This has enabled a change in the possible range of coiled tubing applications. However, a bigger impact is the change in the wells in which coiled tubing is called to service. Wells have gotten deeper, horizontal, extended reach, multilateral and completing across multiple zones. This has led to a variety of bottom hole assembly and process developments, and a significant shift in coiled tubing's "established" operations. Annular fracturing is one example of a now common application for CT that did not exist only a few years ago. A shift to long, horizontal wells in very tight reservoirs led to the need for multiple zone, horizontal well fracturing methods.

CT is presently one of the most cost-efficient ways of finishing these wells. This presentation lists and explains the more common, higher end CT applications in use today. It also predicts the new technologies that will come along over the next decade, some of which are already seeing trial applications today. A member will take away important learning's related to the latest / leading edge technology that CT is being used for today such as difficult sand clean outs, world record perforating with CT, rotating jet technology, annular fracturing with CT and acid tunneling with CT in carbonate formations to name a few.



Lance Portman has spent 23 years in the oil and gas industry, most of which has been associated with coiled tubing. Those 23 years have been spent with Nowasco Well Service and BJ Services, spanning operational, engineering and marketing roles, in Europe, North America and the Asia Pacific region.

Portman has authored 21 SPE papers on coiled tubing related topics, and been published several times in industry journals such as *JPT*. He has also been

granted four US patents. In 2008, he was nominated by SPE to teach a SPE short course on coiled tubing titled Coiled Tubing Operations and Its Applications. In July 2008, Portman moved from his position in Singapore as Region Business Development Manager – Coiled Tubing to his current position as Director of BJ Services' Coiled Tubing Research and Engineering, Canada.