

Leveraging Data-driven Exception Based Surveillance to Maximize Returns in Times of Low Oil Prices

Authors [Amol Agrawal \(Shell\)](#) | [Joel Lie \(Shell\)](#) | [Peter van Leeuwen \(Shell\)](#) | [David Adun \(Shell\)](#) | [Jan Briers \(Shell\)](#) | [Phua Pei-Huey \(Shell\)](#) | [Ann Sniekers \(Shell\)](#) | [Rick Enns \(Shell\)](#)

Document ID SPE-181080-MS

Publisher [Society of Petroleum Engineers](#)

Source SPE Intelligent Energy International Conference and Exhibition, 6-8 September, Aberdeen, Scotland, UK

Publication Date 2016

Abstract

With current economic realities, now is the time to produce "more with less". Exception Based Surveillance (EBS) helps eliminate waste in an engineer's day, by removing unnecessary analysis and allowing the engineer to focus on the highest value tasks. For the surveillance of oil wells, an efficient and effective way to achieve this is to use an automated Exception Based Surveillance System, often augmented by data-driven well rate estimates.

Specifically, this paper provides examples from Shell operations in Gabon, Malaysia, and the Netherlands on how EBS systems have been set up to address day to day production challenges. The multiple EBS Systems to be described here have been achieved via the tight integration of real-time data in Well, Reservoir and Facilities management (WRFM) workflows and the automation of complex calculations and rule sets. This paper also describes the WRFM "Next Generation surveillance tool" (NGT) currently being rolled out in several Shell assets (Clinton 2016).

The work described here regarding enhanced Exception Based Surveillance Systems and integrated Portals go beyond just deploying tools. To be sustainable and value adding over existing practices, the introduction of these systems requires the transformation of roles, processes and tools to fully and efficiently leverage and gain value from now mature

<https://www.onepetro.org/conference-paper/SPE-181080-MS>