

Driving Completions Efficiencies Through Effective Sensor-Driven Data

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Abstract

The recent ambition to digitize oilfield activities has been stimulated from the data challenges of the past. While the industry scouts and scrubs old data libraries; it looks to present a clean, reliable data bank in the future. Sites in the completion phase have historically presented challenges in recovering pad-level data which involved pasting together data sets from numerous standalone service companies. There are three main motivations when digitizing completion sites:- Drive a process of accountability and productivity on site - record unbiased, non-subjective data. Real-data will produce real-time changes to harmoniously motivate a culture of field based efficiency. Providing a tool for Well Site Supervisors to enable them to educate themselves on pad activity as a whole allowing for data-driven decisions to materialize.- Automate mundane processes - remove the need for human clerks and post-processing time investments,- Create trustworthy data - eliminate data islands that exist without relevance so that analytics can be processed, and ultimately provide a drive to operationalize completions performance. The completions data challenge has been overcome with the first Industrial Internet of Things (IIoT) based, digital completions recorder. This wellhead sensor-driven, real-time system enables continuous monitoring of multi-well pad operations - coiled tubing, wireline, frac, flowback, and other digital company data - as they occur. It provides instant visibility of the pad operations to those on location and to remotely located personnel. Recently an international corporation operating in the WCSB utilized this digital completions recorder to overcome historic data challenges and create a reliable data ecosystem for its completions sites. Three main Key Performance Indicators were realized: wellsite accountability was driven with live data for the site

supervisor; sustainable efficiencies were realized, where cycle times were reduced, and pad activities were optimized; data entry was automated, and data was integrated with existed reporting systems. Pad-level efficiencies and significant cost savings results are seen from the approach of visualizing congruent operations and being able to both optimize each inefficient task and capitalize on, a repeat, already efficient operations.