
Geologic Input in the Workover Process Provides Valuable Analysis to Define ‘Sanded Up’

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GCAGS Explore & Discover Article #00106*

http://www.gcags.org/exploreanddiscover/2016/00106_dalthrop_and_beidelman.pdf

Posted September 13, 2016.

*Abstract published in the *GCAGS Transactions* (see footnote reference below) and delivered as an oral presentation at the 66th Annual GCAGS Convention and 63rd Annual GCSSEPM Meeting in Corpus Christi, Texas, September 18–20, 2016.

ABSTRACT

In the oil and gas industry, geologists are integral to prospect mapping, drilling operations and petrophysical analysis. However, ongoing workover activities are often performed independently by engineers with geological input only when a recompletion involves revised perforation intervals. A broader scope of geological input in the workover process can provide value. A review of workover reports revealed a recurring situation of a ‘sanded up’ condition that required flowlines or wellbore clean outs. Geologists reviewing the reports asked “What does the sand look like and where does it come from?” ‘Sanded up’ was explained to be a generic term used to describe a well that was clogged or stuck due to any type of material in the system. A study was designed to determine what material had ‘sanded up’ the wellbore. Field samples were collected and a procedure to evaluate the samples was established. During a sample period of seven months, 45 samples were collected and evaluated. The ‘sanded up’ field samples were identified to be a variety of materials including frac sand, metal shavings, salt, paraffin/hydrocarbons, cement, and producing formation. The analysis provided indications of cement and casing wear as well as the condition of frac sand that ranged from pristine to very fine crushed particles. One set of samples also indicated that a salt water disposal well internal coating of the casing was flaking off and potentially contributing to obstructions. The analysis provided information useful to design better the workover procedure. Study results were beneficial to well management planning and the development of solutions specific to each situation. Additionally, data about frac sand that had been implanted in the formation and had flowed back into the wellbore may be useful to determine what types of frac materials and stimulation designs provide a more stable proppant over time.

Originally published as: Dalthrop, M., and K. Beidelman, 2016, Geologic input in the workover process provides valuable analysis to define ‘sanded up’: Gulf Coast Association of Geological Societies Transactions, v. 66, p. 931.