

SAGD Sand Control: Large Scale Testing Results

Mark T. Anderson Devon Energy

Summary

Slotted liners, precision punched screens, and wire-wrapped screens were tested to evaluate sand control performance. The large scale liner testing results confirmed the small scale results, where wire wrapped screens were found to perform the best for moderately coarse Pike sandprints 2 and 3. Aperture size affects sand production rates and grain size, but appears to have minimal impact on pressure drop and plugging for liner technologies with high open flow area.

Introduction

Provide a summary of large scale liner testing results to confirm previously presented small-scale SAGD liner testing results and make a final recommendation for liner technology and aperture sizing for the future McMurray SAGD project in Pike.

Theory and/or Method

Laboratory performance testing of different sand control technologies and aperture sizes using Pike McMurray sand in the Devon patented large scale liner testing apparatus. The apparatus uses 50kg of sand and a full scale 7"OD Liner sample.

Examples

This is the first paper to present large scale liner testing results for wire wrapped screen and compare it to other liner technologies without any scaling/normalization of the results.

Conclusions

Slotted liners, precision punched screens, and wire-wrapped screens were tested to evaluate sand control performance. The large scale liner testing results confirmed the small scale results, where wire wrapped screens were found to perform the best for moderately coarse Pike sandprints 2 and 3. Aperture size affects sand production rates and grain size, but appears to have minimal impact on pressure drop and plugging for liner technologies with high open flow area.

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GeoConvention 2017 2