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DLC Application to Reduce Scale Deposition and Improve SRP Run Life

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Diamond-like carbon (DLC) coatings were applied to downhole sucker rod pump components in an effort to improve run lives. The DLC was not implemented to reduce friction—the goal was to create surfaces smooth enough to prevent/reduce scale deposition in an asset produced with steam cycling. The scaling encountered in trouble areas of the field would commonly lead to stuck or seized valves/pumps, requiring early rod and/or tubing pulls for replacements.

Three DLC vendors were contracted to apply their products to SRP balls, seats, cages and/or plungers that were then installed in trouble wells. This presentation will describe the asset operational conditions, the DLC application techniques/differences, and the results of the multi-vendor pilot.