Superior Energy & Greene Tweed Collaborate on Low-Friction Seal That Performs Reliably at Extended Depths & Pressures

Background
Superior Energy developed a flow control valve called the HSSV (Hydraulic Selective Service Valve). The HSSV has been proven to work in shallow to moderate depths where the surround pressure is lower and the valves could actuate as necessary.

Challenge
When Superior Energy’s customers used the HSSV in extended depths, the surround pressure increased dramatically, making it very difficult to shift the valves open or closed due to the high friction caused by the collapsed pressure.

This inability to shift the tool meant customers would not be able to control their production from the well, which could result in a loss of revenue due to shut-in and potential necessary intervention required.

Solution
Superior Energy partnered with Greene Tweed to create a low-friction seal that could compensate for the surround pressure both at the shallow and extended depths.

The Greene Tweed solution was composed of a combination of Greene Tweed’s proprietary materials, Avalon® 89 and Avalon® 57 as well as Arlon® 1330, a lubricated PEEK material developed specifically to minimize friction.

Greene Tweed’s design expertise and industry-leading materials enabled Superior Energy’s technology to perform more reliably at extended depths and pressures.
Results

• The Greene Tweed seal passed Superior Energy’s qualification testing for optimal sealing, while minimizing shifting forces with low- and high-surround pressures.
• Greene Tweed’s industry-leading materials and engineering capabilities offered a seal design that enabled Superior Energy’s customers to open or close valves regardless of depth.
• Incorporating Greene Tweed’s seal in Superior Energy’s HSSV ensured high performance without the risk of an expensive production shut-in or costly intervention.

About Superior Energy

Superior Energy Services serves the drilling, completion, and production-related needs of oil & gas companies worldwide through specialized oilfield services and equipment.

Superior Energy has a history of developing specialized tools and technologies designed to meet customer needs, such as "rigless" plugging and abandonment services, and that benefit oil & gas producers throughout a well's life cycle.

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About Greene Tweed

Greene Tweed, a leading global manufacturer of high-performance materials and products, leverages extensive engineering, design, and manufacturing expertise to provide solutions that provide exceptional performance in the challenging environments of the energy market.

Combining more than 150 years of technical capabilities and commercial knowledge in a variety of markets, Greene Tweed has been at the forefront of innovation, and is proud to deliver leading products, including Chemraz®, Fusion®, Arlon®, Orthtek®, and Xycomp®, which are sold worldwide. For more information, call +1.215.256.9521, or visit www.gtweed.com.