Extended Flow Assurance Solutions

Keep profits and production flowing over the life of your deepwater well
Uninterrupted Flow Assurance

Pre-treatment
Baker Hughes flow assurance experts optimize the stimulation treatment for your well’s specific reservoir mineralogy, lithology, production fluids, and stimulation source water, using field history and offset well experiences to predict post-stimulation problems.

Day of initial treatment
By integrating the appropriate Sorb™ Ultra inhibitor treatment into the well’s completion program, Baker Hughes delivers proactive flow assurance.

Post-treatment, Phase 1
Baker Hughes personnel monitor inhibitor levels to ensure that the inhibitor remains at a high enough level to provide ongoing protection.

Post-treatment, Phase 2
Once monitoring determines that the initial treatment is reaching the end of its effective life, Baker Hughes implements a FATHOM™ XT subsea-certified chemical program to assure continued flow for the remaining life of the well.

In offshore production wells, especially deepwater wells, flow assurance concerns can lead to major problems. Issues such as deposition and corrosion often result in delayed production and costly intervention to replace flowlines and umbilicals.

Prevent the problem before it occurs.
Baker Hughes offers a unique multiphase solution that helps you avoid flow assurance issues from construction through the productive life of the well. Sorb™ Ultra chemistry is applied as part of the well completion to safely and efficiently inhibit downhole deposition with slow-releasing and long-lasting chemicals. A specified volume of Sorb Ultra chemistry is added to the frac-pack or gravel-pack slurry to provide maximum protection based on the well’s specific requirements. Functioning as an intermediate-strength proppant, it does not have a negative impact on conductivity and is ideal for high-closure-rate wells. This unique technology provides extended flow assurance by protecting the well from the formation of scale, paraffin, and asphaltene. And, unlike liquid inhibitors which begin exiting the formation on day one with the oil flow, Sorb Ultra chemistry releases only into the fluid of interest when it appears—thus extending the treatment’s effective life and potentially slowing the production decline curve.
A single treatment, although effective, is rarely permanent. It takes more than just one treatment to ensure uninterrupted flow throughout the well’s productive life. And, in extreme deepwater temperatures and pressures, special protection for umbilicals, which are sometimes miles in length, is required to assure delivery of chemical treatments to the proper injection point of the well. These treatments help prevent blockages such as hydrate, mineral scale, paraffin, and asphaltene deposits, while also protecting the integrity of assets and production equipment against corrosion.

But, using improperly qualified chemical treatments is risky, as they can be incompatible with construction materials, resulting in damaged and plugged umbilicals that can be extremely costly to repair and replace.

That is why Baker Hughes engineered the family of FATHOM™ XT deepwater subsea-certified chemicals to be reliable flow assurance chemical treatments that will perform in the extreme high-pressure, high-temperature environments of deepwater production. All FATHOM XT chemicals undergo stringent design and testing to meet exacting standards for high- and low-temperature performance, material and physical compatibility, and capillary and umbilical stability.

With FATHOM XT subsea-certified chemicals and their rigorous 16-test protocol, you can enhance production performance and minimize risk in virtually any deepwater or ultradeepwater production environment.

Avoid production interruptions and minimize flow assurance costs with a holistic solution. In a traditional well development program, stimulation and remediation are separate, isolated events that can lead to inefficiencies that multiply over time. When designing a flow assurance treatment program, Baker Hughes engineers consider the life of a well—or a whole field—as a holistic continuum that extends beyond the initial completion. As shown in the graph below, we start with Sorb Ultra chemistry at construction, and monitor its effectiveness to inhibit downhole deposition along the production life cycle. And, as the Sorb Ultra protection reaches the end of its effective life, we can seamlessly transition your well to an extended chemical treatment program with FATHOM XT subsea-certified chemicals.

The result: Reliable and effective flow assurance for the life of your well.

To learn more about an extended flow assurance program that fits your well’s needs, contact Baker Hughes or visit bakerhughes.com/flowassurance.