Unique chemistries for the harshest environments

Biocides: Treating your frac tank, impoundment pit, producing wells or even sour wells requires biocides that can act quickly with a lasting effect to help ensure the longevity of production. Our products are the only fast acting, long lasting biocides that are safe to handle with EPA registration. No need to adjust your other commonly found additives such as friction reducers or even O₂ scavengers as our biocides are compatible and deliver against Sulfate Reducing Bacteria (SRB) as well as Acid Producing Bacteria (APB).

Antiscalants: High temperatures, pressures and changing water chemistries can create a variety of challenges to keeping your wells flowing to their maximum production levels. Our polymer based scale inhibitors are best suited to provide the performance you need where phosphonates fail because of the wide range of demanding variables they can withstand. Whether you are battling barium sulfate or calcium carbonate or anything in between, we can help provide the right solution to keep your well running even in the most extreme scaling conditions.

Our wide selection of scale inhibition chemistry can be tailored for any treatment scenario. Learn more at www.wateradditives.com
### Chemistry | Application Use | Features and Benefits
--- | --- | ---
**Bellacide® 300** | Phosphorous Poly-Blend | Drilling, Pit Treatment, Fracturing, Production, Sour Wells
- Competitive: Effective kill of SRBs & APBs at efficient dosages.
- Capable: Safe to handle, high functioning in a broad pH and TDS spectrum, thermally stable over 300°C.
- Compatible: Does not interfere with other additives such as friction reducers, gel breakers or scavengers.

### Severe Scale Control

#### Bellasol® S50
- Sulfonated Carboxylic Acid Based Polymer
- Barium sulfate and calcium carbonate scale inhibition
- Highly effective against many scales including BaSO₄, Ca₃(PO₄)₂, CaSO₄, SrSO₄, CaCO₃ even in high TDS.
- Excellent compatibility profile and detectability.
- Exhibits excellent barium sulfate control under high barium ion and low pH control.
- Superior crystal growth inhibition properties compared with phosphonates and/or polyvinyl sulfonate copolymers.
- Better adsorption characteristics compared to other sulfonated polymers.
- Thermal/hydrolytic stability, excellent high temperature stability.
- Precipitation squeezes can be used which will further increase squeeze lifetimes.

#### Bellasol® S80
- Carboxylic Acid Based Polymer
- Barium sulfate, calcium carbonate and silica scale inhibition
- Good performance in BaSO₄ and CaCO₃.
- Extremely effective against silica and related scales.
- Effective even in systems with iron.

#### Bellasol® S30
- Carboxylic Acid Based Polymer
- Barium/calcium sulfate & calcium carbonate scale inhibition
- High performance severe scale control against CaSO₄ and CaCO₃.
- Outperforms phosphonates and is superior to polyacrylates for CaSO₄ control.
- Readily detectable in oilfield brines controlling the timing of subsequent squeezes.
- Exhibits efficient adsorption/desorption profiles in both limestone and sandstone geology.
- Superior calcium compatibility provides optimum CaSO₄ control in reservoirs with high total dissolved solids.
- Thermally/hydrolytically stable.
- Precipitation squeezes can be used which will further increase squeeze lifetimes.

#### Bellasol® S65
- Carboxylic Acid Based Polymer
- Biodegradable barium sulfate & calcium carbonate scale inhibition
- Strong scale performance with excellent biodegradability profile.
- Greater than 60% biodegradable in OECD 306 Test.
- Precipitation squeezes can be used which will further increase squeeze lifetimes.

#### Bellasol® S28
- Maleic Terpolymer
- Barium sulfate & calcium carbonate scale inhibition
- Strong CaCO₃ performance.
- Precipitation squeezes can be used which will further increase squeeze lifetimes.

#### Bellasol® S16
- Enhanced PMA
- Barium/calcium sulfate & calcium carbonate scale inhibition
- Cost effective for scale inhibitor treatments.
- General purpose antiscalant for non-severe formation of CaCO₃, CaSO₄ and BaSO₄.

---

**Americas**
Atlanta - United States  
Phone +1 678 802 3050  
Or 800 600 4523  
Americas@wateradditives.com

**Asia Pacific**
Singapore - Singapore  
Phone +65 9745 3227  
AsiaPacific@wateradditives.com

**Europe**
Manchester - United Kingdom  
Phone +44 161 864 6699  
Europe@wateradditives.com

**MENA**
Dubai - United Arab Emirates  
Phone +971 4 880 7336  
MiddleEast@wateradditives.com

---

**Patents:**
BWA Water Additives (BWA) owns or is the licensee of patents and patent applications, which may cover the products and/or uses described in this case study. The following are registered trademarks of BWA Bellacide, Drop and Swirl logo. © Registered US Patent and Trademark Office. © 2016 BWA, All rights reserved.

The information contained in this case study is based on data available to BWA Water Additives and is thought to be correct. Since BWA has no control over the use of this information by others, BWA does not guarantee the same results described herein will be obtained, and makes no warranty of merchantability or fitness for a particular purpose or any express or implied warranty. This information is intended for use by technically trained personnel at their discretion and risk.