dbe DAVID BROMLEY ENGINEERING LTD.

Total Suspended Solid Removal

The primary purpose of the **RSL Membranes™** is to separate suspended solids and colloidal solids (< 0.45 micron) from a fluid, typically water. **RSL Membranes™** do not operate as a barrier technology. Instead, they rely on the DLVO theory of repulsion and attraction to separate solids (see DLVO theory). **RSL Membrane™** use a membrane substrate that has a pore size >1 micron yet separate solids as small as 0.01 micron. In the first assessment of **RSL Membranes™**, there was a comparison with Veolia's silica carbide membranes called ceramem. The pore size of the ceramem membrane is 0.01 micron yet the **RSL Membrane**™ equal or exceeded the water quality produced from the ceramem membrane.

Research and Development Objectives

TSS removal is the key purpose of **RSL membranes™**. R and D efforts are focused at this specific performance requirements. Key issues are

1. Lengthening the filtration cycle for inorganic solids
2. Improving separation of fats and oils, proteins, polysaccharides, and bacteria.