

Purification of Brackish Water Using Electronic Water Purification

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Abstract

Salt, minerals and Silica in the water are the major components of TDS (total dissolved solids) for brackish water. These contaminants can be removed using a new Technology: The Electronic Water Purifier (EWP) makes patented technology available to generate a purified water for supply water that meets potable water standards and/or waste water for re-use or discharge within EPA limits.

The technology uses an activated carbon electrode. These electrodes are electrically charged using a DC power supply and have different polarities. The minerals/metals in the water have polarity charges, which are attracted to the opposite polarity of the electrode, thus removing the minerals from the water. These minerals are deposited on the electrode creating the purified water. The contaminants during regeneration fall off the electrode at a higher concentration than the feed water and can be discharged.

The Pilot Test Results will be presented for the purification of waste water from a coal bed methane gas well as well as other applications. Test results will also be presented from our DARPA research for the desalination of seawater.