

**TEST UNIT RESULTS FOR LOW-POWER CAPACITIVE DEIONIZATION  
FOR TREATING COALBED METHANE PRODUCED WATER**

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A test unit demonstrated the effectiveness of the small footprint, low-power technology using capacitance-based deionization to treat the saline waters produced from coalbed methane wells in the Atlantic Rim CBM play. The mechanism for ion removal during purification and wastewater regeneration is a hybrid of Capacitive Deionization (CDI) and Electro-Deionization (EDI). Aqua EWP developed the technology called the EWP X3 using hybrid electrodes comprised of activated carbon, nono-materials and a Semi-permeable coating. The electrodes are electrically charged to opposing polarities using a DC power supply and ionically charged contaminants in the water are attracted to the electrodes of opposite charge, thus facilitating their removal from the water. In 2008-2009 Aqua EWP fielded a 250 bwpd processing unit on two CBM pods in Carbon County, Wyoming and demonstrated the effectiveness of the unit as a small-footprint technology with low operating and maintenance costs. Full scale construction is now being undertaken for field capable units.

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