

PURIFICATION OF CBM PRODUCED WATER USING CDI TECHNOLOGY

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A new class of technology using capacitance based de-ionizer will be presented using all solid state electronics. The mechanism for ion removal during purification and waste water regeneration is uses Capacitive Deionization (CDI) (patent pending). EWP (electronic water purified) is our brand name.

The technology uses a hybrid electrode comprised of activated carbon, nano materials and a ultra thin semi-permeable coating. These hybrid electrodes still 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.

A 1.750 BPD unit was installed with a 5,000 ppm TDS feed of coal bed methane produced water. The waste water is purified to meet discharge limits. This Case Study will be presented after the 6 months of operating history on using this technology in Australia including OPEX and CAPEX costs. We will show a water analysis before and after; including a characteristic of preferential removal for the primary pollutants of arsenic, fluoride, nitrates, EC and other constituents.

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