

# Analysis of water quality in a coal preparation plant

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Coal preparation plants are under increasing pressure to reduce their consumption of fresh water leading to the use of recycle water. Recycled water generally contains a large quantity of dissolved inorganic electrolytes, which affect coal flotation. This paper is concerned with the conductivity and pH measurements of water in tailings stream of an industrial scale flotation cell covering a period of approximately two years. The study presents the large variation in inorganic content in recycled water observed for a wash plant and determine its possible effect on coal preparation. The maximum daily temperature was found be an important factor controlling the amount of inorganic electrolytes in the water. The effect of the quantity of ions in the water on the flotation process was also studied. The concentration of inorganic electrolytes was found to strongly affect the gas dispersive properties in the flotation cell and the dosing of other reagents was modified in response to variations in the conductivity of the water.