**Evaluation of Potable Water Quality of AL-Diwaniyah Water Treatment Plants**

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**Abstract**

The selection of proper treatment is of prime importance in the providing of drinking water. In this study tow WTPs in Diwaniyah were selected to evaluate their water quality in producing potable water according to the Iraqi standards. The two plants had high removal efficiency in turbidity which reached to (90 – 95) % and the turbidity of the treated water did not exceed 5 NTU.As for the natural constituents in raw water Ca, Mg and Na, their concentrations decreased in the treated water, but were within the desirable standards. Concentration of Al appeared also, as alum is added in the coagulation process. The final effluent had concentrations of Al ranging 0.01 - 0.02 mg/l. Fe with concentrations of 0.01 -0.2 mg/l appeared also, but Fe salts were not added for treatment. Must therefore follow-up tests of water on an ongoing basis to determine the cause. The two plants are efficient in bacterial removal as pre and post chlorination is applied. The residual chlorine in the effluent from the plants ranged 2.0 - 2.5 mg/l, which was enough to leave 0.5 mg/l in the distribution system.