AERATION BY CONVENTIONAL CASCADES IN ARID WEATHER

KEYWORDS
Aeration, Water Treatment, Cascades, Gas Transfer, Warm Weathers
Saturation Concentration

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ABSTRACT

Oxygen requirements in the water treatment system are the result of demands to remove undesirable materials such as carbon dioxide, hydrogen-sulfide and oxidizable minerals in waters. The oxygen content depends on water supply sources. Changing oxygen requirements resulting from water sources must be correctly estimated by designers. In addition to that, weather conditions of the region surrounding the water treatment plant must be known, as well as properties of the reactor type selected.

In this research, a pilot plant including aeration (cascades type) and slow sand filtration units was constructed in order to study the treatability of ground water in the Fezzan Area (Libya). Aeration experiments were carried out in both Winter and Summer. The dissolved oxygen concentration and the temperature of the source and effluent streams were measured. By the evaluation of the data obtained, an estimation formula was developed to use for possible requirements at warmer temperatures.
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