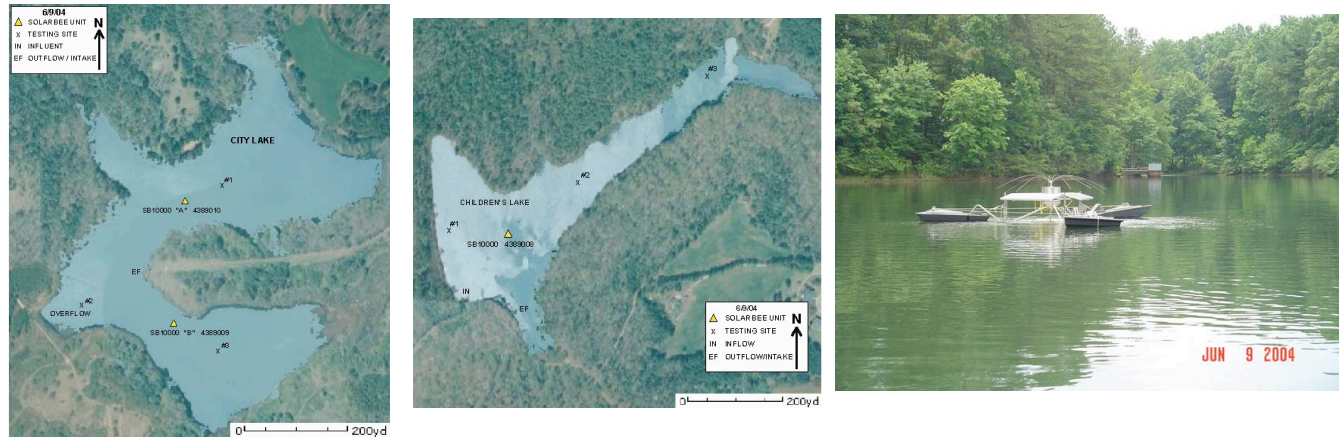


Key Words: RW reservoir, blue-green algae, manganese, iron, taste and odor, dissolved oxygen



Photos: First and second photos are aerial shots showing the location of the two SolarBees in City Lake and the single unit in Children's Lake, respectively. The third photo shows the SolarBee in Children's Lake.

Reservoir or Lake Use: Both lakes are used as raw water supply reservoirs for the water treatment plant serving the city.

System Overview and Reservoir: City Lake: surface area is 36.4 acres, maximum depth is 15 ft with an average depth of about 10 ft. Children's Lake: surface area of 22.6 acres with maximum depth of 25 ft and an average depth of about 20 ft.

Reported Problem Before SolarBee Installation: The lakes had a history of blue-green algae blooms causing taste and odor problems created by the algal release of MIB and geosmin, as well as undesirably-high concentrations of manganese (up to about 0.9 mg/L) and iron (about 1.7 mg/L). The primary objective is to increase dissolved oxygen concentrations in order to oxidize and lower concentrations of soluble manganese and iron, with the secondary objective to control blue-green algae blooms and prevent associated taste and odor problems.

SolarBee Installation: Date: June 2004, installed two (2) SB10000 units in City Lake, and one (1) SB10000 in Children's Lake.

Results: During the first year, manganese concentrations were lowered to about 0.05 mg/L, and have remained low since. Blue-green algae blooms have also been controlled, eliminating the associated taste and odor problems. Both the operator and the local water district are very happy with the SolarBees, the realized benefits from circulation, and the support provided by SolarBee staff.

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