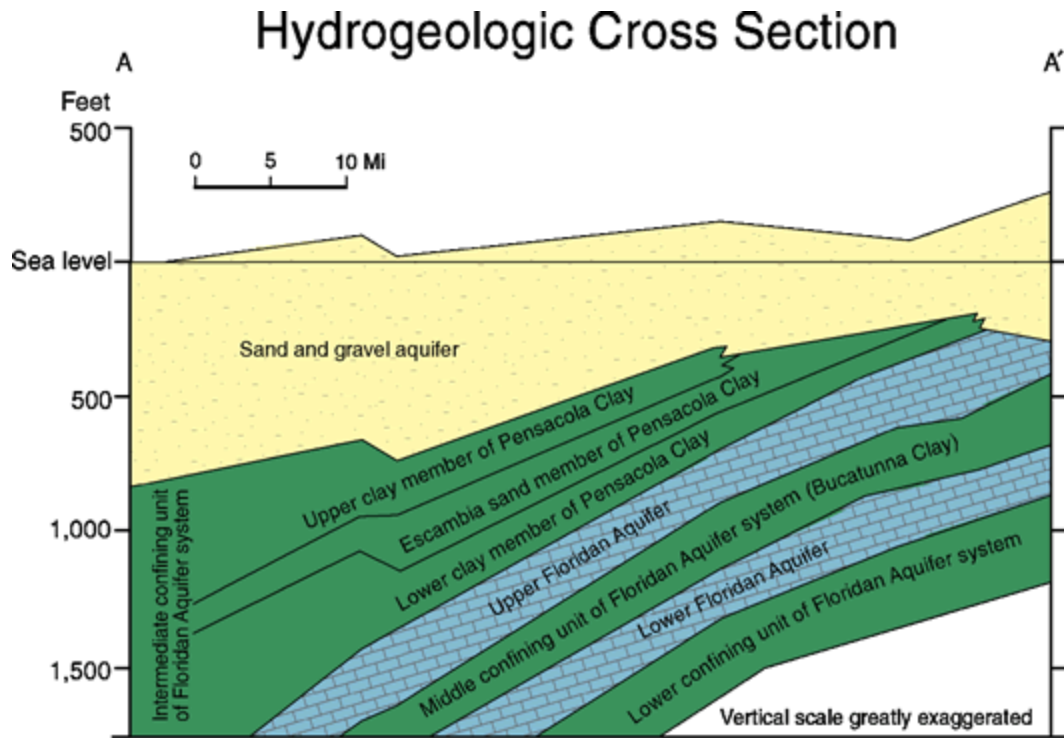


## INTERMEDIATE AQUIFER SYSTEM

The intermediate aquifer system consists of those water-bearing units located between the Floridan aquifer system and the overlying surficial aquifers, and consists of one or more water-bearing units separated by confining units. Because of the lower permeability and transmissivity of the intermediate aquifer system compared to the Floridan aquifer system, the intermediate aquifer system acts as a confining unit for the underlying Floridan aquifer system in some places. Because the intermediate aquifer system does not yield as much water as other aquifers, it is used only in places where water from surficial aquifers or the Floridan aquifer system is not adequate in amount or quality. In southwestern Florida, for example, the underlying Floridan aquifer system contains nonpotable water, thus the intermediate aquifer system is the main source of water supply for Charlotte, Lee, and Sarasota counties. The intermediate aquifer system consists predominantly of sand beds and limestone of the Hawthorn Group; and sand, limestone, and shell beds of the Tamiami Formation. The aquifer also contains some sandy limestone, sandstone, and clay beds.

Water in the intermediate aquifer system is under confined conditions, except locally where an upper clay confining unit is absent. In most places, water moves downward through the upper confining unit of the intermediate aquifer system. Most of the water then follows short flowpaths and discharges to surface drainage. Some water percolates downward through the lower confining unit of the intermediate aquifer to recharge and Lee counties, some water leaks upward from the Floridan aquifer system to the intermediate aquifer system. In Polk County, where the potentiometric surface is more than 120 feet above sea level, the intermediate aquifer system water moves outward from two major recharge areas. From these areas, the lateral flow is toward major surface streams and the Gulf of Mexico. The two depressions in the potentiometric surface in western Sarasota County are caused by pumpage from local pumping stations.





### Study Questions

1. Define the term “potentiometric.”
2. Where is the Intermediate Aquifer-System located and is it confined or unconfined?
3. Why is the Intermediate Aquifer-System used as a water source in southeastern Florida?
4. Does the Intermediate Aquifer get thicker from north to south or from south to north?  
How do you know?