



Statewide seawater interface - Esperance groundwater area

Eleven Mile subarea

The major freshwater flow direction through the Eleven Mile subarea is to the southeast. Hypersaline groundwater is thought to be flowing out radially from Pink Lake and extending out to the south, through the bottom portion of each of the three saltwater interface monitoring (SWIM) bores in the Twilight subarea. Licensee data suggests that there may be a preferential flow path for saline water from Pink Lake further north, however investigation is required to confirm this.

Most of the Eleven Mile subarea contains freshwater throughout the entire saturated thickness of the aquifer, modelled up to be up to 33 metres thick, but has small areas where saltwater is present (Figure 1). A seawater interface is present up to 100 m inland along the coast where the aquifer is present. Outcrops and subcrops of basement rock limit the saturated thickness of the aquifer in certain areas of the coast and may slow the inland progression of the seawater interface from abstraction.

Inland, the saltwater interface toe protrudes slightly into the Eleven Mile subarea, where hypersaline water from Pink Lake is present at the base of the aquifer. Due to abstraction from Eleven Mile being relatively recent compared to other sub areas, there is limited information available and our understanding of how salinity moves in this area has a greater level of uncertainty.

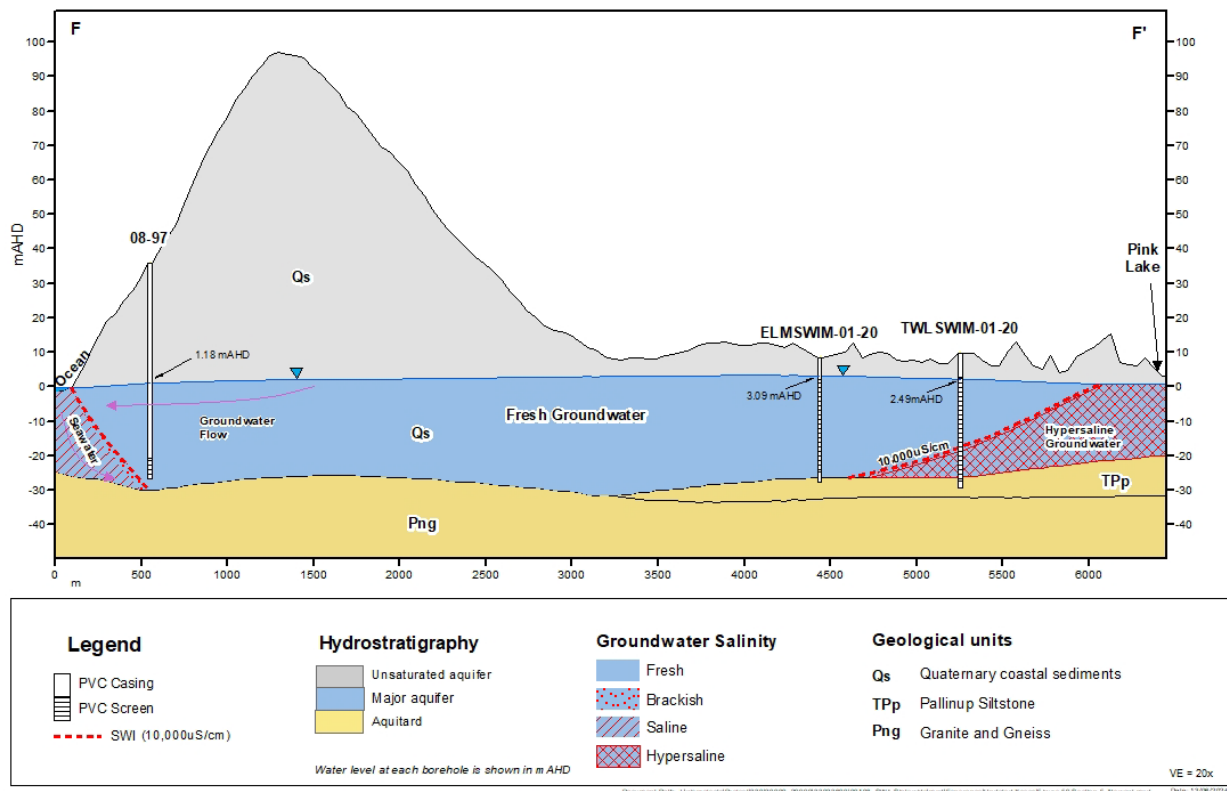


Figure 1: Cross section F-F' through Eleven Mile subarea showing two separate saltwater interfaces