

GROUNDWATER DEFINITIONS

WATER TABLE: The top of an unconfined aquifer; indicates the level below which soil & rock are saturated with water.

CONFINED AQUIFER: An aquifer that is bounded above & below by non-permeable layers that transmit water significantly more slowly than the rest of the aquifer. The water level in a well that taps a confined aquifer will rise above the top of the aquifer because the confined aquifer is under pressure, which is often referred to as an artesian aquifer or well.

UNCONFINED AQUIFER: An aquifer in which the upper boundary is the top of the water table.

PERMEABLE LAYER: A portion of the aquifer that contains porous rock materials that allow water to penetrate freely.

IMPERMEABLE LAYER: A portion of an aquifer that contains rock material that does not allow water to penetrate; often forms the base of unconfined aquifers and the boundaries for confined aquifers.

ZONE OF SATURATION: The area of a water-bearing formation in which all spaces between soil particles and rock structures are filled with water.

ZONE OF AERATION: The area of an unconfined aquifer above the water table where the pore spaces among soil particles and rock formations are filled with air.

CONE OF DEPRESSION: Pumping from a well in a water table aquifer lowers the water table near the well. This area is known as a cone of depression. The land area above a cone of depression is called the area of influence. Groundwater flows towards the well into the cone of depression. This can change the natural direction of groundwater flow within the area of influence around the well.