

Aquifer

But let's assume that the groundwater makes it down to the water table. Whatever layer it collects in (and moves through) is called an AQUIFER. Aquifers can be sedimentary or crystalline rocks or unconsolidated deposits.

Confined aquifer

Groundwater can be sandwiched between two layers of impermeable rocks. This groundwater sandwich is called a CONFINED AQUIFER.

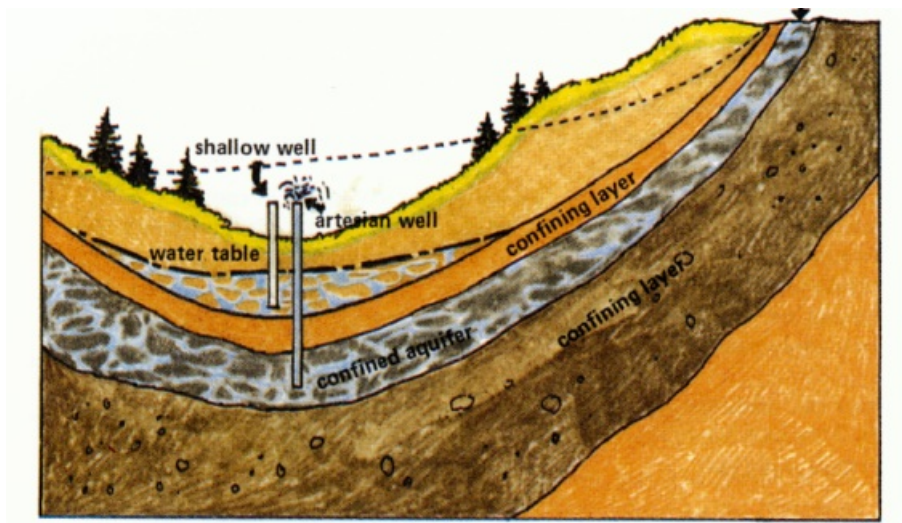
The confined aquifer is like water running through a garden hose; if you punctured the hose, a jet of water would shoot straight up in the air.

Artesian wells

The ARTESIAN WELLS you've probably heard of are wells drilled into a confined aquifer. The water level in artesian wells rises ABOVE the level of the confined aquifer. Sometimes there is enough pressure in an artesian well to push the water above the surface of the ground. Then it's called a FLOWING ARTESIAN WELL. That's the kind you usually see pictures of.

Residence time

In Pennsylvania, most groundwater moves from recharge areas (hills, mountains) to nearby discharge areas (streams, rivers and swamps). Its underground journey usually takes days, weeks or months. Deep flow paths may be several miles long and takes decades, centuries or even longer before it discharges. How long it stays underground is called its RESIDENCE TIME.



Pressure in a confined aquifer may push well water above the ground surface, but water from a shallow well in an unconfined aquifer will have to be pumped out.

