

WATER WELL MONITORING TECHNICIAN SECTION

DEFINITIONS

Static Water Level: The level of water in a well that is not being affected by withdrawal of groundwater.

Pumping Level: The level at which water stands in a well when pumping is in progress.

Drawdown: The distance between the static water level and the surface of the cone of depression.

Specific Capacity: The rate of discharge of a water well per unit of drawdown, commonly expressed in gpm/ft or m³/day/m. It varies with duration of discharge.

Cone Of Depression: A depression in the groundwater table or potentiometric surface that has the shape of an inverted cone and develops around a well from which water is being withdrawn. It defines the area of influence of a well.

Artesian Well: A well deriving its water from a confined aquifer in which the water level stands above the ground surface; synonymous with flowing artesian well.

Coliform: A group of bacteria found in the intestines of warm-blooded animal and also in plants, soil, air and water. Fecal coliforms are a specific class of bacteria which only inhabit the intestines of warm-blooded animals. The presence of coliform bacteria is an indication that the water is polluted and may contain pathogenic organisms.

At a minimum, water sources used for human consumption should test for coliform bacteria.

Porosity: The percent of the bulk volume of a rock or soil that is occupied by interstices, whether isolated or connected.

Permeability: The property or capacity of a porous rock, sediment, or soil for transmitting a fluid; it is a measure of the relative ease of fluid flow under unequal pressure.

Yield (Well Yield): The volume of water discharged from a well in gallons per minute or cubic meters per day.

PH: A measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions increasing with increasing alkalinity and decreasing with increasing acidity. Originally stood for the words potential of hydrogen.

Artesian Pressure: Pertaining to groundwater, a well, or underground basin where the water is under a pressure greater than atmospheric and will rise above the level of its upper confining surface if given an opportunity to do so.

Well Screen: A filtering device used to keep sediments from entering a water well.

Disinfection: The process designed to kill most microorganisms in water, including essentially all pathogenic (disease-causing) bacteria. There are several ways to disinfect, with chlorine being most frequently used in water treatment.

Monitoring Well: A cased water well for the purpose of monitoring for the possible presence of contaminants.

Primary Drinking Water Regulation: Specifies a maximum contaminant level, contains procedures to assure a drinking water supply will comply with the maximum contaminant level, and specifies contaminant health effects.

Maximum Contaminant Level (MCL): The maximum level of a contaminant permitted in water as measured at the point of entry to a public water supply system. Example is 10 ppm for nitrates.

Aggressive Water: A term that refers to water with a low PH (acidic).

Piezometer: A non-pumping water well used to measure the elevation of the water table or potentiometric surface.

Potentiometric Surface: An imaginary surface representing the total head of ground water in a confined aquifer that is defined by the level to which water will rise in a well.

Check Valve: A ball and spring mechanical device that is used to allow water to flow in one direction only.

Confined Aquifer: An aquifer in which the ground water is under pressure greater than atmospheric pressure; and its upper limit is the bottom of a bed of distinctly lower hydraulic conductivity than that of the material in which the confined water occurs.

Bailer: A long, narrow tubular device with an open top and a check valve at the bottom that is used to remove water from a monitoring well.

Dedicated Sampling Equipment: Sampling equipment that is reserved for use in only one monitoring well.

Purging: Process of removing stagnant water from a well prior to sampling.