

January 29, 1990

BASIC CRITERIA FOR DETERMINING IF A PERMIT FROM  
THE STATE WATER RESOURCES CONTROL BOARD  
IS NEEDED TO DIVERT WATER FROM A WELL

The jurisdiction of the State Water Resources Control Board (State Board) to issue permits for the diversion of subsurface water is limited by Section 1200 of the Water Code to "subterranean streams flowing through known and definite channels." Subsurface water not within the State Board's jurisdiction is referred to as "percolating ground water." In determining whether subsurface water is part of an underground stream or is percolating ground water, the important characteristic is whether the water is flowing in a defined channel with bed and banks bounding the flow, or whether it is part of a diffused body of water.

In many cases, the State Board and the Courts of California have decided that subsurface water in the alluvium filling a valley or canyon constitutes a subterranean stream. The relatively impermeable bedrock walls of the valley in the subsurface are considered to be the bed and banks of the known and definite channel. Sometimes, wells drilled into bedrock will produce water in limited amounts from fracture zones in the rock. Typically, the State Board considers water from bedrock sources to be percolating ground water.

The following examples should help you determine if a proposed well will divert water from a subterranean stream flowing through a known and definite channel, and therefore require a permit for the diversion.

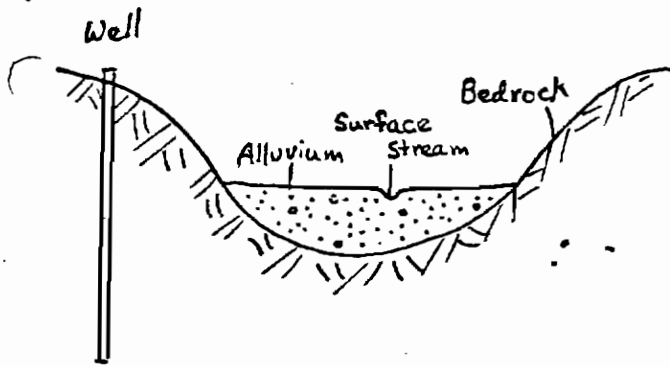
1. Subsurface water in bedrock aquifers is usually considered to be percolating ground water. If the well site is located on a valley wall or hilltop, the site probably overlies a bedrock aquifer and the proposed well probably will tap percolating ground water. In this case, a permit from the State Board is not required for the diversion of subsurface water. See diagram 1.
2. Subsurface water in alluvial aquifers is often considered to be a subsurface stream. If the well site is on the flood plain of a creek or stream, and the target aquifer is the alluvium, a permit from the State Board is probably required. See diagram 2.
3. If the well is drilled completely through the alluvium and into bedrock, and if the well annulus is sealed through the alluvium, the well is connected only to bedrock and a permit is not needed. See diagram 3.
4. If the well is drilled so that it is connected to both the alluvium and bedrock, a permit from the State Board is probably required. See diagram 4.

There may be exceptions to these general cases. If you feel your case may be an exception, you are advised to retain a qualified geologist or engineer and an attorney to obtain an expert opinion on your site specific situation.

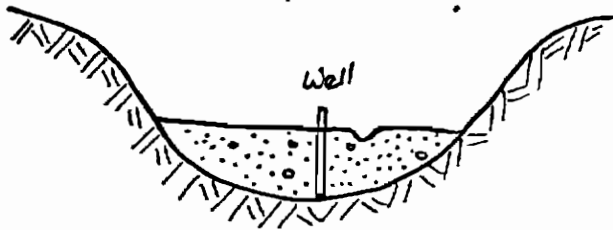
## Definitions

- Alluvium:** Deposits of clay, silt, sand, and gravel made by streams on river beds, flood plains, and alluvial fans.
- Annulus:** The space between the casing in a well and the wall of the borehole.
- Aquifer:** A body of rock or unconsolidated sediment that is sufficiently permeable to conduct underground water and to yield economically significant quantities of water to wells and springs.
- Bedrock:** The solid rock or relatively impervious material that underlies gravel, soil, or other superficial material.
- Flood Plain:** That portion of a river valley, adjacent to the channel, which is built of sediments deposited during the present regimen of the stream and is covered with water when the river overflows its banks at flood stages.

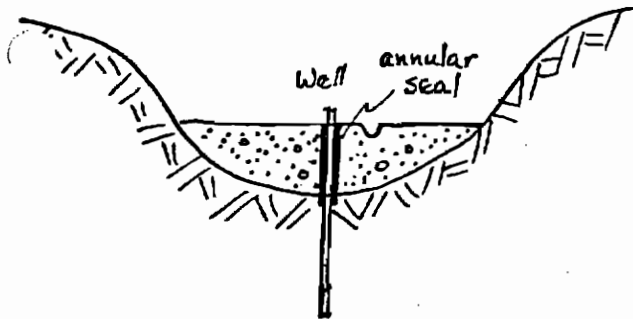
## CROSS-SECTIONAL DIAGRAMS OF AN ALLUVIUM FILLED VALLEY



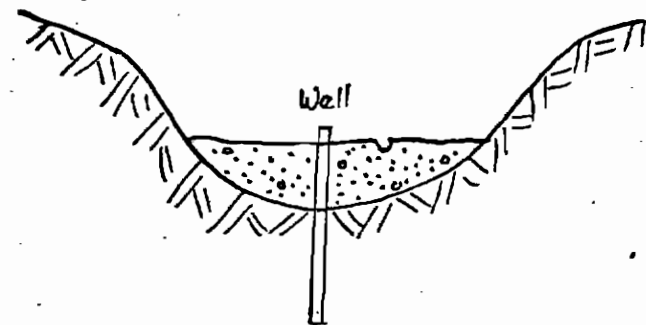
1. Well site is on bedrock hillside. Well extracts percolating ground water from a bedrock aquifer. Permit is not required.



2. Well site is on the flood plain of the stream. Well extracts water from an alluvial aquifer considered to be a subterranean stream flowing through a known and definite channel. Permit is required.



3. Well site is on the flood plain of the stream. Because the well is sealed through the alluvium, the well only extracts percolating ground water from underlying bedrock. Permit is not required.



4. Well site is on the flood plain of the stream. Well extracts water from both the alluvium and bedrock aquifers. Permit is required for the portion of the water diverted from the alluvium.