

## **How Underground Water Creates Electromagnetic Fields (EMF)**

While making its way through tiny pores in rock and gravel, underground water absorbs substances from its environment and chemically transforms some of these substances. For example, when charged particles (called ions) from metals such as calcium, magnesium, and iron are dissolved in the underground water, electric fields are created due to the movement of the ions in the water. Another key factor in this process is the friction created by the water (and the ions in the water) traveling through the tiny pore spaces underground. Depending on the nature and concentration of the metal ions being absorbed, the pore sizes they travel through, and the speed and mass of the water, electrical fields of different force and wavelengths are generated. Because all of these factors can vary with time (like periods of wet weather versus dry weather, etc.), a constantly changing composition of electromagnetic waves in a broad frequency range is produced (EMF).

In addition, Quartz particles are frequently found in the ground where underground water travels, either between lime plates, rocks or other geologic formations. Electric discharges can be created by rushing water putting pressure on these quartz crystals. This is called the piezoelectric effect, which the Curie brothers discovered in 1880. Quartz consists of silicium and oxygen in the shape of a triangular or hexagonal crystal grid. Quartz forms evenly geometrical crystals with a silicium atom in the middle surrounded by oxygen atoms. Under the constant pressure of the moving earth crust and / or the movement of underground water, this perfectly symmetric molecule is compressed, and the atoms are pushed against each other. This creates a charge imbalance which leads to the discharge of electromagnetic energy (EMF). A single quartz crystal may not have much impact, but countless discharge processes at the same time may have a joint affect and cause a strong impact due to this EMF.

**Source:** Univ.-Prof. Dr. Gerhard W. Hacker: Head, IGGMB – Research Institute for Frontier Questions of Medicine and Biotechnology, Salzburg, Austria