Significant Sand and Gravel Aquifers

**WHAT IS AN AQUIFER?**

Ground water, as the name implies, is stored throughout the land surface of the earth. It occurs in permeable rocks or sediments that permit water to move through them. Aquifers are rock units that store adequate quantities of water to be useful to human beings. Aquifers can be generally classified as sand and gravel, clay, and karst formations.

**Porosity and Permeability**

The diagram depicts an exaggerated view of the aquifer system. Note that the sand and gravel aquifer system is not a continuous layer of permeable material, but a system of intersecting layers or lenses of permeable material.

**Ground-Water Flow and Contamination**

Ground water moves under the influence of gravity. The direction of ground-water flow is from high to low concentrations of dissolved substances. The rate of flow varies with the nature of the aquifer and the distance between the high and low concentrations. Ground water is a useful resource, but its quality must be controlled to prevent contamination.

**How Are Aquifers Mapped?**

Ground water under the earth’s crust is an invisible resource which can be characterized by the ground-water potential map. The map is prepared by hydrogeologists who study the types and amounts of water stored in the ground, the permeability or ability of the ground to transmit water, the recharge area, and the discharge area of the ground water.

**Other Sources of Information**