

*How would you place the soil? Why?*

3. The French have given the world many brilliant geohydrologists and groundwater engineers. The most well-known law governing the flow of groundwater was named after a French municipal engineer who was working with sand filters, who published his work on groundwater flow in 1856.

Seven years later, another French engineer used the first engineer's work to develop a general theory of water flow into a well, and an important mathematical assumption is named after him. As an aside, this second engineer also was active in economics and his work led to the Laffer curve of taxation.

Two decades later, a third engineer who was a professor of geology at the Imperial School of Mines published *Les Eaux Souterraines aux Epoques*

*Anciennes et à L'époque Actuelle* [Subterranean Waters in Ancient and Current Times] on the geological aspects of groundwater. He also was the French inspector general of mines, and had an extensive collection of meteorites.

*What are the names of these French engineers and in what city did the first engineer do his work? Hint, they all begin with the letter "D."*

4. Terzaghi question: In the early 1930s, this fellow aggressively challenged Karl Terzaghi for ignoring this effect in groundwater flow. The resulting disagreement eventually led to a widely scrutinized board of inquiry that concluded Terzaghi was correct. The resulting humiliation led Terzaghi's detractor to commit suicide, along with his wife. Ironically, most

reservoir modeling now includes this force when determining high flow rate applications.

*Who was this fellow, and what effect was Terzaghi ignoring?*

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Answers: 1. Plato, who apparently was also a geohydrologist, wrote the *Dialogue of Critias*. 2. A few points wetter than optimum, it helps the soil particles to deflocculate. The density, and thus the pore area, might be the same as a soil placed drier than optimum, but the pores will be more uniform in size. 3. Henri Darcy in Dijon, Arsène Dupuit, Gabriel Daubrée. 4. Paul Fillunger, inertia forces.

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