



GEOHERMAL HEATING AND COOLING SYSTEM DEVELOPMENT

Office Locations:

Hershey, PA

1129 West Governor Road
P.O. Box 797
Hershey, PA 17033-0797
Phone: (717) 533-8600
Fax: (717) 533-8605

Columbia, MD

8965 Guilford Road
Suite 100
Columbia, MD 21046
Phone: (410) 290-7775
Fax: (410) 290-7776

State College, PA

197 Egg Hill Road
Spring Mills, PA 16875
Phone: (814) 364-1888
Fax: (814) 364-2826

Visit us on the web at:

www.armgroup.net



ARM Group Inc.

Earth Resource Engineers
and Consultants

With the rising price of natural gas and heating oil over the last several years, and the prospect of these prices remaining escalated, owners and developers are increasingly considering alternative heating and cooling systems. ARM is helping its clients to save money, maintain a cleaner environment, and to conserve energy through the application of ground source heat (geothermal) technology. Geothermal energy, which is potential energy stored in the heat within the earth, is used to effect a change in air or water temperature through a "heat pump." A heat pump transfers the cooling or heating energy to the temperature of the air of the building, resulting in either heating or cooling, depending upon the season. Although higher in cost for initial installation, a geothermal heating /cooling system, when optimized, can quickly compensate for higher start-up costs through savings in energy costs over time.

The advantage to developers, owners, and facility managers - from schools to industrial warehouses - of using geothermal energy over conventional natural gas or heating oil systems, is a long-term operational cost savings that is significantly less dependent on the fluctuating costs of the energy source. Additionally, use of geothermal energy reduces greenhouse gas emissions by using the naturally occurring heat source of the earth. Geothermal heating/cooling systems are integral elements of many "greener" building projects. To efficiently design and optimize a geothermal heating/cooling system, strategically located groundwater wells and a geothermal conductivity test are imperative. ARM's experienced hydrogeologists and engineers complete geothermal conductivity tests by locating and installing the test wells, and completing conductivity testing per industry accepted practices. ARM's hydrogeologists provide added value to the well siting and selection process by using fracture trace analysis and geophysics to identify the subsurface regions with the greatest thermal and hydraulic conductivity potential prior to drilling. This process typically results in lower capital costs for geothermal systems because a more thermally conductive well means fewer wells are necessary to achieve the required capacity of the system. Speak to William Seaton, PhD about how your business or facility could benefit from a geothermal heating and cooling system.

