To efficiently design and optimize a geothermal heating/cooling system, strategically located groundwater wells and geothermal conductivity tests are imperative. ARM Group Inc. (ARM) 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 geo-thermal systems because a more thermally conductive well means fewer wells are necessary to achieve the required capacity of the system.

Ground Source Geothermal System Services:

- Hydro-geothermal evaluation of site specific conditions
- Thermal conductivity testing
- Well field siting, planning and design
- Permitting
- Construction oversight
Ground Source Geothermal System Services

Hydro-geothermal evaluation of site specific conditions
Review the local geology, aquifer characteristics, and existing wells in the area and correlate with drilling results from a deep test well at the site.

Thermal conductivity testing
A thermal conductivity test will be performed for a month to determine the average formation thermal conductivity and the average thermal diffusivity of the undisturbed soil.

Well field siting and planning
A test well is drilled in the proposed area for the selected geothermal system. The purpose of the test well is to determine the site-specific subsurface geology and thermal conductivity characteristics for the design of the geothermal well field. The geothermal well field will be situated at a location that will allow sufficient thermal gradient characteristics, suitable location and well depth, while minimizing drilling and completion costs.

Permitting
ARM will evaluate local zoning ordinances, building codes, and other regulatory permitting requirements and complete the steps necessary to successfully permit the project.

Construction oversight
ARM employees will provide complete oversight of the test well drilling operations and use the information gathered to determine the optimal design of the well field, well location, and well depths.