

**Geothermal Study
at
Young Harris
College**

Young Harris, Georgia

Performed For

Blue Ridge Mountain EMC

by

Earth Energy
Engineering Inc.

January 1999



**Ewbank
and associates**

GEO SYSTEMS PROFESSIONALS

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Thermal Conductivity Test Results Young Harris College

Earth Energy Engineering performed a thermal conductivity test at the Young Harris College on January 8, 1999. Testing was done by Bill Nagle with a Ewbank portable test unit.

The test borehole was 300 feet in depth and 6" in diameter. A 1" inch loop was installed and the borehole was backfilled with #8 stone. Static water level was not reported. The formations encountered were primarily limestone and granite. The borehole produced very little water.

The average thermal conductivity (**k**) for the borehole was **1.5 btu/degree F-hr-foot**. This is an average conductivity per foot for the borehole. This value represents the rate at which the borehole and rock will transfer heat. It is an important variable in determining the amount of ground heat exchanger required for a given system.

All test equipment, methods, procedures, calculations, and interpretation is done in accordance with the recommendations and guidelines of the International Ground Source Heat Pump Association.

Drill log for Young Harris College

Hole # 1

39 Feet PVC casing left

From ft	To ft	Material
0	10	Clay
10	56	Decomposed rock
56	80	Marble
80	300	Marble & Granite mix

0 GPM water make

Hole # 2

60 Feet PVC casing left

From ft	To ft	Material
0	10	Clay
10	74	Decomposed rock
74	80	Marble
80	90	Sand stone
90	300	Marble & Granite mix

5 GPM water make
20 Feet SWL

Hole # 3

60 Feet PVC casing left

From ft	To ft	Material
0	10	Clay
10	68	Decomposed rock
68	300	Marble & Granite mix

0 GPM water make