

## Example Projects — Geothermal

### Private Residence, Rye, NH

AWE engineered the Geothermal heating and cooling system for the 15,000 sq-ft existing house retrofit project. Energy cost savings achieved 60% for heating & 40% for cooling, per metered electricity data & propane bills for previous propane-fired hot water heating system (based on 2009 propane price \$2.11/gal.— even more savings compared with current fossil fuel prices)

(Completed in 2009)



The 6 existing outdoor condensing units were no longer needed and were removed.



13 boreholes were drilled. Boreholes were ganged together to form a ground loop system. Header pipes of the ground loop run to the pump room inside the house.



Compressed air rotary DTH hammer drill rig was used to drill the vertical boreholes.



Variable speed ground loop pumps were used to conserve pump energy.



Ground source heat pumps were installed in mechanical space inside the house