



Maritime Geothermal Ltd.

Manufacturers of NORDIC® geothermal heat pumps

Open Loop Residential Installation Ken & Brenda Smith

In 1991 Ken and Brenda Smith were in the process of building a new home just outside Fredericton, NB. Ken had been looking at a geothermal heat pump as the primary source of heat for the new home and was pleased to discover that the water flow from a newly drilled well would be adequate to supply both his domestic water and also the requirements of a heat pump. Since the water was discovered at a reasonable 80 ft. depth it was decided that a second well would provide the most ecologically acceptable technique for returning the water to the ground.



Style: Ranch with full basement
Area: 2500 sq.ft
Heat Pump: [O-65-HPCW](#)
Heating Output: 60,000 Btu's
Cooling Output: 38,000 Btu's
Hot Water Output: 5,000 Btu's

An O series heat pump was selected as the most economical unit to operate since well water temperature was below 50°F. Ken was keenly interested in the heat pump system and had read everything he could find on the subject. He was fully prepared to look after the installation of the unit himself. The project began by installing the submersible pump and connections to the return well. A pitless adaptor and electrical supply wire was installed in both the supply and return wells so that their roles could be reversed in the future if

required to minimize the possibility of corrosion in the return well over a period of years.



Supply well: 80 ft
Return well: 90 ft
Diameter: 6"
Spacing: 80 ft

Recognizing that a proper air distribution system is a critical part of a heat pump system Ken had the ductwork designed by Robert Alston, a NORDIC dealer located in Sussex, NB. The plenums were fabricated by a local sheet metal shop and installed by Ken and the carpenters during the construction of the home. The plumbing and wiring of the unit was followed as outlined in the installation manual. The entire operation went very smoothly and the unit was soon heating the home. Total installation time took about two days. The system has now been in operation for 10 years, already saving the Smith's more than twice the extra capital cost of the heat pump system.



Unit in place with plenums installed