



Maritime Geothermal Ltd.

Manufacturers of NORDIC® geothermal heat pumps

UAP - Auto Parts - Petitcodiac, N.B.

2 Well Open Loop Installation
In floor Radiant Heating
5 ton Water-to-Water NORDIC® Heat Pump



United Auto Parts

General

In 1991 Terry Stott, owner of the local UAP supply store in Petitcodiac, NB, decided to erect a new 3000 sq.ft. building to house his ever growing auto parts business.

Terry had read up on the current trend to use radiant floor heating in a slab on grade building such as he was contemplating and had also contacted Maritime Geothermal about coupling a water-to-water heat pump which, he felt, would yield an extremely energy efficient heating system. Local contractors experienced with the installation of an in floor system were rare in 1991 therefore Terry and some of his employees designed the system and installed the tubing in the floor themselves.

Two wells were drilled at the back of the building about 150 ft apart to a depth of about 120 ft each to act as the supply and return conduits from the aquifer beneath the building. Each well had a flow capability in excess of 25 Igpm. Pitless adaptors were installed in each well and an electrical supply wire was run to each well so that the 1/2 HP submersible pump could be moved from one well to another if required.



During installation of the in floor system there was some speculation by the employees as to whether they would be warm in winter since there were no local in-floor systems in the vicinity. The first year of operation quickly turned them all into supporters of the system since the floor system allowed the employees to work in complete comfort with more than enough heat. One of the unforeseen operational factors contributing to too much heat in the building was the fact that the large windows shown above face west catching the afternoon sun and often over heating the showroom area to the point that the front door could be open even in January. Closer control of the slab heating has reduced this problem but it

did demonstrate to many customers that a radiant floor system had the capability to drive you right out of the building even in the coldest weather!

As the owners became familiar with the operating characteristics of the system it was observed that the heat pump generally ran only during evening hours when the store was unoccupied. With the help of the overhead fluorescent lights, the residual heat built up in the floor was more than sufficient to carry the building through cold winter days without the heat pump cycling on.

Operation Costs

Since installing the heating system, owner, Terry Stott has been extremely satisfied with the operational costs citing in one conversation after the first year of operation that the electrical bill which now included the heat was only marginally higher than the electric bill in their old building which had oil heating.

Maintenance Costs

The heat pump system has now been in operation for 8 years with only minor maintenance required. In 1996 the galvanized heat exchanger end caps were replaced with new Stainless Steel units and the floor circulator has been replaced once.

For more information call:

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