Blue River Resort
British Columbia

We are what we heat

When temperatures drop to &40EF for a month at a time, GeoExchange heating is more than just an economical source of energy. At Blue River Resort in British Columbia, it's a necessity. Located in one of the most consistent and heavy snowbelts in the Northern Hemisphere, the folks at Mike Wiegele Helicopter Skiing know a thing or two about heat. The Blue River Resort welcomes thousands of international guests each year. How they choose to keep their guests warm is a reflection of their philosophy and is one of the ways they distinguish themselves in a competitive marketplace.

With environmental consciousness defining the corporate landscape for more than a decade, consumers have grown more and more sophisticated. Also, the green factor has become a more significant ingredient in the decision-making process for businesses.

The green factor and the bottom line

When Mike Wiegele decided to build an administration building, he was looking for an alternative that would better meet his needs and would keep up with Blue River's image of being the highest standard resort. The building was originally specified by the engineer to have propane furnaces with air conditioning, electric baseboard heat and electric hot water heaters. However, Mike wanted a heating and cooling system that was environmentally friendly, didn't burn fossil fuels, had no venting and was comfortable and dependable. With these concerns in mind, he contacted Chris Mitchell with Polar Refrigeration in British Columbia. Mike's decision to install a GeoExchange heating system was naturally influenced by consumers' environmental concerns, as well as by a more traditional consideration: the bottom line.

Key Features

Square Footage: 39, 600
Type of System: Closed loop-vertical bore
Number of Units: 23
Total Capacity (HVAC Tons): 103

First, discerning skiers, hikers and fisherman travel great distances to participate in Blue River's unique outdoor wilderness experience, so Blue River's corporate viability depends on having a clean, pristine environment in which to operate. By using 'clean' technology to extract heat energy stored within the earth, Blue River is in effect going some distance to protect the raw material of their industry. Second, GeoExchange heating makes economic sense. The

installation costs of roughly 20 percent more than conventional alternatives were recouped in just a few short years. Once the switch was flipped, operating costs were roughly 25 percent of conventional heating.

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> –Fred Ahrweiler, Project Manager
> Mike Wiegle Helicopter Skiing

The GeoExchange treatment

Polar Refrigeration installed the first GeoExchange system at Blue River in the administration building, an approximately 7,200 square-foot, two-story log building. The building has five AT057 Premier™2 units and one SX048 Spectra™ unit feeding a high quality in-slab duct system, with desuperheaters providing hot water assistance. Each unit has its own loop, designed for redundancy should a problem occur. The loop system consists of twelve 1.25 inch header lines which cross a road through a culvert to a field where there are 34 holes, 200 feet deep.

Fred Ahrweiler, project manager at Mike Wiegele Helicopter Skiing, was instrumental in the Blue River geothermal installation. "Initially the project was regarded skeptically," says Ahrweiler. "But the numbers and the environmental benefits speak for themselves." Since the initial installation, Ahrweiler has spearheaded construction of seven more chalets and a 6,000 square-foot house for the 30-some mountain guides who tend to the care and comfort of their guests. Each of these projects received the GeoExchange treatment.

The Blue River Resort is a prime example of the viability of GeoExchange closed loop applications, even in the coldest of climates. Ahrweiler proclaims, "It's a fine way to beat the cost of heating in a cold climate. In Europe, heat pumps have been in use since the 1970s. The technology has found its perfect application here in Blue River." For this luxury retreat nestled in the British Columbia mountains, over $1 million invested in environmentally friendly heating is adding to the long-term health of the bottom line – and sending a warm message to its guests in the process.

Case Study Courtesy of WaterFurnace International