

Geothermal and ice rink a good match

By Larry Limpf
News Editor
news@presspublications.com

For almost 10 years Troy Mauder has been constructing an ice skating rink in the backyard of his Bradner Road home.

Using old lumber and other spare parts he would build a rink for his two young sons and their friends to enjoy during the winter months - when the weather cooperated. But the quality of the ice depended on consecutive days of snow-free frigid temperatures.

"Usually it would take a week of weather in the teens to adequately freeze the water," he said. "Then the ice wouldn't always be so great if we had snow while the water was still freezing."

Every year that Mauder has installed a rink in his yard he's tried "something different to make it better."

This winter season, the owner of Mauder Heating & Air Conditioning, is using a highly efficient renewable energy technology that is gaining more acceptance among builders in the residential and commercial sectors - geothermal.

He's installed about 1,800 feet of pipe under a plastic sheet between the wooden borders of the 100-foot by 40-foot rink. The piping is connected to a heat pump in a garage Mauder uses for his business.

"This system sucks the heat out of the water in the rink and transfers the heat to the garage," he said. "This freezes the ice so much quicker and this is freezing from the bottom up."

The advantage of a geothermal system is that it works by concentrating naturally existing heat, rather than by producing heat through combustion of fossil fuels, according to the U.S. Department of Energy.

Mauder is using the same anti-freeze used in motor vehicles for his geothermal system but at a higher ratio than the 50-50 mix commonly advised for autos. He's even constructed a portable Zamboni machine of spare tubes and a squeegee to condition the ice surface.

In prior years, when he heated his garage with an electric furnace he kept the temperature at 45 degrees because the costs were high. This system keeps the building warmer at less cost, he said.

His sons, Dylan, 11, and Mitchell, 13, who participate in a Bowling Green youth hockey league, have been enjoying



The Lake High School hockey team uses Mauder's 100' by 40" rink for practice. (Press photo by Ken Grosjean)

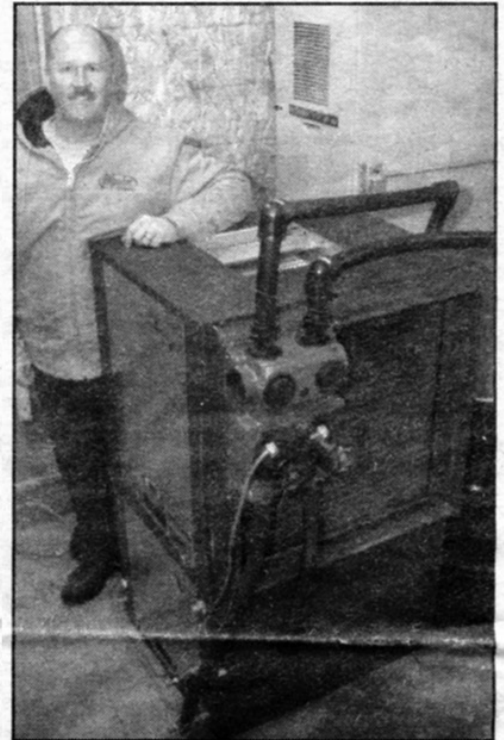
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the rink with friends and members of the Lake hockey team. Lake skaters have been competing with other schools as a club team after the school board decided to drop it as a varsity sport.

"We wanted to do as much as we could for them," Mauder said. "Hopefully, our kids will be playing for Lake hockey."

The rink is ringed by halogen lamps set on poles and two small goals are at each end of the ice.

"There were several of the Lake players out here on Monday night when it was about 14 degrees and we had 30 mile per hour winds," Mauder said. "But it wasn't cold to them. They were out here skating and sweating, listening to the radio. Finally, we had to say, 'Guys, it's time to call it a night.' They're glad to get some ice time in."



Troy Mauder's geothermal system keeps his outdoor rink frozen. (Press photo by Ken Grosjean)