

GEOOTHERMAL GOES MAINSTREAM VIA SONIC

IN Vancouver, Canada, rated the third-best city in the world by Mercer Consulting, one thing is very clear – geothermal has gone mainstream.

With a population of more than two million enjoying one of the highest ratings for quality of life (based on 39 different factors), many are also choosing to invest in geothermal systems for residential, municipal and commercial projects.

Considering the numerous benefits of a geothermal system, it is not surprising to see large construction projects employing a drill rig, but it is somewhat surprising to see how many smaller residential projects are catching geothermal fever.

"We're now assigning a lot more drilling time to geothermal installations," says Bill Fitzgerald, general manager of Sonic Drilling Ltd, a contracting company based in the Vancouver area with a fleet of sonic rigs supplied by Sonic Drill Corporation.

"Geothermal is quickly overtaking our original business of environmental investigations," he adds. In fact, Mr. Fitzgerald says that, compared to a few short years ago, geothermal has done an almost 180 degree turn.

"New business enquiries used to be about 90% environmental and 10% geothermal. Now, it is about 80% geothermal and 20% environmental," explains Mr. Fitzgerald.

And that is where the smaller residential projects come in.

Recently, Sonic Drilling was contracted to install four geothermal holes and loops for an older 'heritage-style' home, located on a difficult slope with tight, consolidated material underneath – and in the middle of Kitsilano, a popular, but congested, urban neighbourhood.

"It was a challenging job site where we ended up using the sonic drill but, instead of using water, we drilled with compressed air. It took a little longer than our standard two days, but we got it done," says Mr. Fitzgerald.

"And now this home can be renovated and retrofitted above ground to match the new system it has below ground – a credit to the homeowner who wasn't discouraged at putting geothermal into an older home."

While it is entirely feasible to install a geoexchange system in a smaller, older home, most believe residential geothermal installations are best suited to new houses larger than 3,000 sq. ft. – a notion that Vancouverites apparently did not get.

"A lot of people actually tried to talk us out of installing geothermal in our new home because it is only 2,500 sq. ft.," says Jennifer Magee, who, along with husband Bradley, is the proud owner of a new home in Langley, a city in the Vancouver area.

"Because our home is smaller, it will take a while before the system is paid for but it's still the best thing we ever did," she says.



With a small working space, a tight budget, and silty, sandy ground beneath them, the Magees arranged for a sonic drill rig to bore four holes, each to a depth of 200 ft.

As it turned out, the sonic drill rig was only on the Magee property for one day due to its ability to drill three-to- five times faster than other methods, even in overburden conditions.

Using a patented oscillator and mechanism for rotary motion, the sonic drill can buzz through mixed soils, giving it a distinct advantage – one that is perfectly suited for geothermal use.

Today, with their geothermal installation approaching its first-year anniversary, Jennifer Magee says their electricity bill totalled about C\$1,100 for the year. "Our monthly electric bill is less than C\$100 or about C\$3 per day."