

Do you hear what I hear?

A SONIC drill has been used to quietly install a geothermal grid for a new civic building in Langley, BC, Canada. By opting for geothermal energy, the Township of Langley has become the first municipal building in Canada to be heated and cooled with an alternative energy source.

The facility, which houses numerous offices and some retail space, required 48 vertical wells to be drilled to a depth of 250 ft. beneath the building's new parking lot.

"We decided to go this route primarily because of the anticipated huge energy savings that we believed were possible with a geothermal installation," explained Grant Ward, councilor for the Township of Langley.

"Although we don't have any hard statistics yet, we can already tell that the savings have been substantial. It appears that the performance of the geothermal grid has been outstanding."

"This energy choice may have dropped our costs by about 60 per cent," he added.

Each well and geothermal loop for the Langley township building was drilled and installed by a sonic rig owned and operated by Sonic Drilling Ltd.

As the site was surrounded by other established businesses, Sonic Drilling said the use of a sonic drill rig not only lessened the amount of time on-site but also diminished the impact of associated construction noise on the neighboring buildings.

SONIC DRILL RIGS

■ At first glance, a sonic drill rig looks like a conventional air- or mud-rotary drill rig, but a big difference can be found in the drill head, which is slightly larger than a standard rotary head.

The head contains a patented mechanism necessary for rotary motion, as well as an oscillator, which causes a high-frequency force to be superimposed on the drill string.

As the drill bit physically vibrates up and down, it also pushes down and rotates. These three forces combine to allow rapid drilling through most geological formations.

Due to its performance when faced with mixed material or cobble, the sonic drill rig makes an ideal tool for fast, cost-effective geothermal drilling. And, thanks to its ability to drill, case, grout and loop in one step, a sonic-drill rig can reduce time on-site and cost per foot.



Finished Langley Township building.



Sonic drill working on site in Langley, BC.