



The Buzz

E-Newsletter

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Mississippi Drilling No Match for a Sonic

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Case Studies Illustrate Sonic Benefits

Canada's Geothermal Potential Massive

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Home to the rarest, coarsest silica sand in the world, drilling in the Mississippi area has more than its share of challenges but, thanks to those unique deposits, the area has also been a hotbed of mineral exploration.

In addition to its successful mining operations, it's also an area where sonic drilling has established its reputation for being the only method able to accurately core in unconsolidated materials.

"The sonic gives the ability to drill all the types of soils in the same hole without a lot of trouble," says Daryl Karasch, a sonic drilling foreman for Traut Wells Inc. "About 70% of our work is in mine expansion and the other 30% is in environmental," he adds.

While mineral exploration in unconsolidated material has always been a risky proposition – primarily because there was no economical, versatile or accurate method of determining where to mine – the development of the sonic drill head has changed all that. Only a sonic drill can recover a continuous core including boulders, clays, silt, sand and gravel and lay it in its stratigraphic sequence – from the surface down to bedrock 300 ft (100 m) and beyond. These samples are then extruded into clear plastic sleeves.

Neatly laid out, the core samples can be subjected to a detailed visual examination and analysis, followed by sampling, photographing and archiving for a permanent record of the existing mineral conditions.

"We have had sands, clays, shale, sandstones and limestone all in the same hole and have had a 100% recovery rate," says Karasch. While not wanting to mention competitor's names, Karasch goes on to explain how his sonic drill rig has often outperformed other rigs on the sites he's worked on.

"In many cases, we are doing 3-1 what everyone else is doing," he says. On one mine expansion site, where a sonic drill was finally called in, seven other companies had already tried and failed to produce the needed results. As it turned out, even the famous silica sand of the Mississippi was no match for a sonic.

Geothermal Case Studies Show Sonic Drill Benefits



Award-winning sonic drill rigs, patented and built by the Sonic Drill Corporation, have worked efficiently and profitably on thousands of drilling projects around the world.

For operators, who already own a sonic drill rig, the advantages are self-evident but, for others, the remarkable capabilities of this technology are just becoming known, especially in geothermal applications.

Case #1 – Community College Extension

A geothermal installation at Langara community college in Vancouver, Canada, became the setting for a duel between old and new technology. After encountering extreme soil conditions, a sonic drill rig was brought in as the "rescue rig" for the project. The numbers explain why.

Conventional Rig	Sonic Drill Rig
Three rigs on site	One rig on site
Two months drilling	Two weeks drilling
18 holes installed	23 holes installed
10 days per hole	1-2 holes per day

Case #2 – University Extension

A conventional drill failed at drilling a test hole for a geothermal feasibility study at the University of British Columbia. A sonic rig was brought in and completed the hole in two hours and 13 minutes, despite drilling through tough overburden conditions.

Conventional Rig	Sonic Drill Rig
Failed	One rig on site
	300 ft. hole
	Two hours+

Case #3 – Elementary School Construction

Conventional rigs working on an extensive geothermal field, under a new elementary school soccer field, failed due to delays in drilling through overburden. The sonic rig was able to complete the project on time – a critical issue for the client solved.

Conventional Rig	Sonic Drill Rig
Too slow	Two rigs on site
	120 holes
	Six times faster

Canada's Geothermal Potential Considered Massive



In June 2011, the Geological Survey of Canada and a team of leading scientists in the field of geothermal energy released a report detailing the geothermal energy resource potential for geothermal energy in Canada.

Key highlights of the report noted:

- Geothermal energy potential is broadly distributed across Canada, however, there is only sufficient data to characterize geothermal potential for 40% of Canada's landmass.
- Canada's in-place geothermal power exceeds one million times Canada's current electrical consumption, although only a fraction of this can likely be produced.
- Remote northern communities could be the first to benefit from geothermal development in Canada.
- Canada has significant potential for development, as few as 100 projects could meet a significant fraction of Canada's base load energy needs.
- Research on decreasing installation costs could make further exploitation of abundant low-temperature geothermal resources feasible.
- Environmental impacts of geothermal development are relatively minor compared to other energy developments, however there are still key issues to be addressed.
- Geothermal installations have the potential to displace other more costly and environmentally damaging technologies.
- Geoscience research and mapping is required to reduce exploration risk as well as to support regulatory development in order to attract industry investment.

Download the full report [here](#).