



# The Buzz

E-Newsletter

October 2011 Issue

Straight Talk on Geothermal Holes

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Sonic Safety Program Now Available Online

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### Rotary Rig Deviation Affects Geothermal

Conventional rotary rigs have a critical disadvantage when it comes to drilling geothermal holes. Typically, the hole diameter is considerably larger than the drill string and because these rigs have to push down to drill, the drill string tends to deflect sideways, sending the bit in different directions. In addition, rotary rigs often glance off cobble material while sonic drills can drill straight through boulders.

Studies have shown that rotary rigs can have a deviation of as much as 10%. This means that, on a 300 ft. hole, a rotary rig can deviate as much as 30 feet!

Generally, the calculations for a geothermal bore field are based on drilling holes on fixed centers of 15 to 25 feet. Understandably, if the holes are as much as 30 ft. out at the bottom of the bore field, these load calculations will be significantly off. In order to compensate for the interference from one hole to the other and to compensate for the resulting uncertainty, designers would have to increase the size of the bore field significantly.

By far, the best method for drilling geothermal holes is to use a sonic drill. With its speed advantage and its ability to drill through any formation, the sonic drill also bores extremely straight holes. With almost no deviation, a sonic drill provides a distinct advantage over all other geothermal drilling methods.

### Sonic Geo-Loop Insertion Now Patented



### Sonic Loop Insertion Patented by Roussy

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. These rigs incorporate a patented technology that was developed and successfully commercialized by engineer, Ray Roussy.

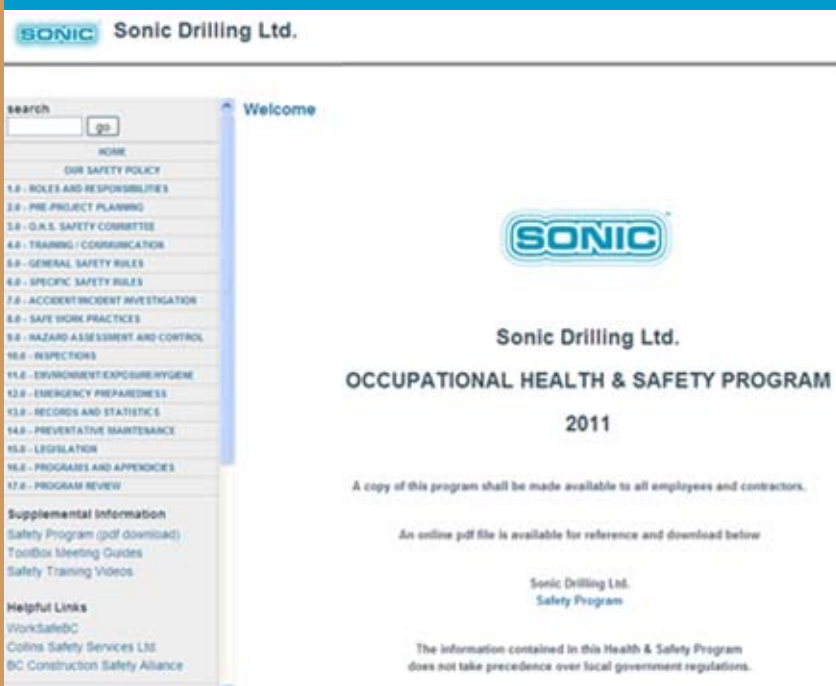
Roussy's achievement was formally recognized when his sonic drill won two national awards including being voted "best new drilling technology." Roussy holds the patents for this revolutionary technology and recently added additional patents that cover using a sonic drill for geothermal installations.

These new patents protect the very unique method in which the sonic drill rig installs geothermal loops. Sonic drills are the only rigs in the world that can drill, case, loop and grout in one operation.

Roussy's patented sonic drill head works by sending high frequency resonant vibrations down the drill string to the drill bit while the operator controls these frequencies to suit the specific conditions of the soil/rock geology. Holes are drilled to the desired depth by rotating and vibrating the casing while keeping the bit face open with a high-pressure fluid such as water (no drilling mud required).

Sonic rigs are the ideal choice in geothermal applications due to their speed advantage and their ability to drill through extremely difficult ground conditions.

### Sonic Safety Program Available Online



### Our Commitment to Zero Accidents

Sonic Drilling Ltd. is committed to a strong health and safety program that protects its employees, contractors, customers, clients, the public and property from accidents and/or incidents occurring on our projects.

Our safety program is now available online (for clients and staff) and can be accessed from both websites; [www.sonicdrilling.com](http://www.sonicdrilling.com) (under the "Company" tab) and [www.sonicgeothermal.com](http://www.sonicgeothermal.com) (follow the home page link). We invite you to take a closer look at our safety policies and training program.

We believe that all accidents are preventable. Our goal is ZERO accidents. Active participation at all levels will ensure that our goal can be achieved. Sonic Drilling Ltd. endeavors to provide proper and relevant employee training, job specific safe work practices, project and personal protection equipment, operation and maintenance procedures and safety guidelines that focus management, employee and contractor awareness on reducing the risk of accidents and/or incidents in all activities.

Sonic Drilling Ltd. contractor employers and contractor employees are responsible for fully complying with all health and safety standards and regulations, including the Workers Compensation Act and the Occupational Health and Safety Regulation (the "OHS Regulation") and for co-operating with management in the implementation of the health and safety program, work site inspections, incident/accident investigations and in the continuous improvement of this program.

We are committed to safe and sustainable practices in all aspects of our operations and therefore will review and update our safety program on a yearly basis to adapt to industry changes, trends and requirements. Sonic Drilling Ltd. management, contractor management and all employees are collectively responsible to ensure compliance with local government, occupational health, safety and environmental regulations.