

Like magic

Sonic drilling proves it's not 'black magic', writes Pascal Lefevre

GeoSonic Drilling has invested in a new Boart Longyear LS250 MiniSonic rig

Andy Condron doesn't have to look far to see evidence of the growing demand for sonic drilling services.

"We've seen a real increase in the number of project enquiries that land on our desk where sonic drilling has actually been specified by geotechnical engineers," says Condron, technical manager of GeoSonic Drilling, one of Europe's largest sonic drilling contractors.

"That wouldn't have happened 10 years ago, because many people were sceptical of sonic drilling and thought it was sort of like black magic. But we've worked hard to champion the technology, and our efforts are now being rewarded."

Sonic drilling is increasingly seen as an alternative to auger drilling and other conventional

techniques for geotechnical investigations and environmental and infrastructure works in a wide range of applications.

It involves the use of a dual-line threaded drill pipe, with the inner line being advanced and a core barrel attached to it. Drilling fluid is not used during sampling, so this 'dry' sampling technique results in intact core samples that are unaltered by drilling fluids.

Following the advancement of the inner drill pipe and core barrel, the outer drill casing is advanced to within one foot of the leading edge of the core barrel. The outer casing serves the same purpose as for conventional dual-line drilling systems by holding the borehole open for well installation, geophysical logging or other downhole



activities. Depending on drilling formations, drilling fluid may be introduced during the advancement of the outer drill casing.

SONIC FLEET

With its recent acquisitions of two French drilling companies as it seeks to export its skills and knowledge to the continent and

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beyond, UK-based GeoSonic now boasts a fleet of 28 rigs offering rota-sonic drilling, surface and subsurface diamond coring, as well as a range of destructive drilling techniques.

At the heart of the fleet are its 17 sonic rigs – a large Boart Longyear LS600, Boart Longyear DB320 MiniSonic rigs, and a brand-new Boart Longyear LS250 MiniSonic rig, a compact rig suitable for a wide variety of environmental, geotechnical, water and mining projects.

In terms of power, rotation speed and footprint, the new LS250 MiniSonic rig fills a critical gap between the LS600 and the workhorse DB320 rigs, Condrón points out.

"We have considerable faith in Boart Longyear sonic technology, as we have effectively run it for 10 years," he says. "Therefore, it was a no-brainer to purchase the latest offering from their stable, the LS250."

Capable of drilling to depths of up to 250ft (78m) when used with 4.75in (121mm) casing, the wide 600mm rubber tracks provide low ground pressure (0.28bar/4psi) and make the LS250 MiniSonic rig suitable for jobs in the most sensitive and fragile terrains. Plus, its smaller footprint makes it appropriate for projects with small drill pads, environmentally sensitive areas or hard-to-reach sites, and requires less support equipment – making it a low-cost solution for a variety of mining, environmental, geotechnical and infrastructure drilling projects. ▼

Projects

"It is important to us as a business to embrace the latest sonic-rig technology the marketplace can offer to allow us to innovate, challenge the convention and continue to explore the many, many opportunities that sonic drilling brings," explains Condrón.

GeoSonic's sonic drilling services are in demand on a wide range of projects crossing many industrial sectors, including offshore geotechnical surveys for wind farms, large-scale multidisciplinary ground investigations on nuclear new builds, validation sampling of stabilised formations within tunnelling projects, ground investigations for highway upgrades, well installation for remediation projects, complex contaminated land assessments on nuclear licensed facilities, aggregate and industrial mineral reserve assessments, tailings investigations and more.

"This wide range of projects requires a degree of flexibility that is only possible by using innovative rigs and tooling,"

says Condrón. "More and more clients are recognising the many benefits of sonic drilling in these environments.

"These include the cleanliness of the methodology and also the speed at which we can drill. Therefore, we're not exposing our operation to excessively high dosages of contamination if it exists."

The LS250 MiniSonic in particular is suited to a wide variety of soft ground, shallow projects, including environmental, tunnelling, water management, grade control and leach pads. GeoSonic's new rig will also probably find its way to northern Europe, where glacial deposits pose particular challenges to conventional geotechnical drilling methods.

"The message about sonic drilling is getting out," Condrón adds. "We're seeing enquiries start to increase from as far afield as Southeast Asia, India, eastern Europe and the Nordic countries. And sonic drilling is the common denominator of the enquiries."

The new Boart Longyear LS250 MiniSonic rig fills a gap between the existing LS600 and DB320 rigs



Pascal Lefevre is director of sales for EMEA at Boart Longyear

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