

MININGWORLD



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By Ellsworth Dickson

Boart Longyear's New LS600 Sonic Drill Rig

Drilling into overburden with the objective of recovering core samples can be tricky. Due to unknown or unforeseeable geological conditions, it is easy to lose parts of the sample, which leaves a knowledge gap in the geological data obtained – data that can be crucial for making geo-construction decisions, for example.

Boart Longyear [BLY-ASX], the world's leading integrated drilling products and services provider for the mining industry, has taken a big step to remedy overburden drilling challenges and has recently launched the LS600 sonic drill rig along with its support vehicle and special sonic tooling. Some 20 years of development and in-field testing went into producing the final LS600 sonic rig.

Sonic drilling differs from, say, diamond drilling, in which a diamond-bearing drill bit cuts through rock, in that the sonic drill head has an oscillator that causes the drill to vibrate, while at the same time, the drill rod is pushed into the overburden.

This high frequency vibration causes the soil particles to fluidize, resulting in easy penetration. This means that the drill can take a sample of loose or wet material without disturbing its physical integrity. When rocks are encountered, the rock crystals are fractured into small particles and dust.

Kevin Tomaszewski, director of global product management of Boart Longyear, said, "The LS600 sonic drill rig allows drillers to gather continuous and undisturbed core samples in varying and difficult ground conditions."



The new Boart Longyear LS600 sonic drill rig

Photo courtesy Boart Longyear.

The vibrating sonic drill head is designed to produce frequencies of up to 150 Hertz, which matches the resonant energy of the ground, allowing the core barrel to easily advance through unconsolidated and difficult overburden formations. Of note, during drilling operations, the borehole is continuously cased by first allowing the core barrel to advance into the substrate, followed by the outer casing.

The new LS600 rig can drill holes with less than 1% deviation and can gather representative samples twice as fast as conventional sampling and reduce

waste up to 80% since no fluid, air or mud is needed. The LS600 can drill to a depth of 182 metres (600 feet) and is available for purchase or lease. The rig is designed for working in the following sectors: environmental, geo-technical/geo-construction, water and mining. It can be used for testing tailings as well as heap leach pad exploration.

Boart Longyear, which has been in business for 120 years, plans to launch eight new drilling-related products this year. For more information on the LS600 sonic drill rig and sonic technology, go to www.boartlongyear.com/ls600 ■