

SONIC DRILL NEWS

BORES NT Newsletter

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SONIC drilling process now available

Advanced European technology now enables the accurate sampling of highly unconsolidated formations that were previously only obtainable by now antiquated push tube type methods

Are you having problems gaining accurate samples?

Q: Do you have a need for sample of backfill areas or broken ground?

A: SONIC drilling will produce accurate samples in the most unconsolidated of formations

Q: Are you trying to sample river bed, mangrove or marshland areas?

A: The SONIC drill can provide 100% undisturbed sample from wetlands, gravel beds and raw swampland formations.

“The Sonic drilling method is simply the most advanced system in the world today for reliably and accurately drilling unconsolidated formations”

-Wim Kooyi

Q. Do you require moisture content retained in the sample

A. The SONIC process can place a sample directly into a sealed plastic tube as it is drilled to ensure every bit of your sample is retained as it is in-situ



Example of typical recovery in varying formations

Advantages of SONIC DRILLING



The SONIC drilling method has been developed in Europe over the past 18 plus years to a refined and almost infallible system of sample recovery in unconsolidated ground.

In Holland for example, where they have up to 1500 metres of sands, clays and weathered gravels, it was necessary to step away from convention to enable satisfactory recovery of sample in such formations.

The result has been the Sonic drill head that operates at up to 150Hz creating such energy at the bit face it literally turns the formation immediately at the bit face to jelly whilst leaving the formation inside the bit kerf untouched.

The sample slides easily into the sample tube and retains its natural strength, water or fluid content and its' natural orientation.

BORES NT now has a SONIC DRILL available in the Northern Territory to resolve your unconsolidated sampling issues.

We will be arranging a demonstration of the machines capabilities in the Darwin region in the very near future. If you would care for an invitation to the demonstration please contact our office on 08 8988 8068 or waterbores1@bigpond.com, provide your details and number of requested attendees and we will contact you regarding times and date for the demonstration.

We are sure you will, as we were, be amazed at the quality of sample and the efficiency of the operation to obtain it.

If you are having any issues at all with sample recovery we urge you to contact us for this demonstration day.



AQUALOCK CORE SAMPLING

The patented AquaLock is a soil sampler with absolutely unique features. The AquaLock is vibrated down directly to sampling depth where it takes a long and practically undisturbed sample. The AquaLock combines the advantages of the very rapid, smooth and powerful Sonic drilling technique with the advantages of a piston type core sampler. It can be used for continuous sampling or discrete sampling.

What makes the AquaLock unique?

- It is the fastest and most reliable sampling tool for alluvial deposits in combination with a Sonic drill.
- High quality long core samples in a matter of minutes.
- Piston used to extrude sample.
- Piston is valve-operated.
- Sampling with casing due to piston locked by watertrap (is AquaLock).



- 1 Valve system
- 2 Filling opening
- 3 Piston
- 4 Cutting shoe or ringbit
- 5 Water column

Wet sands or mixed layers

Before drilling, the AquaLock is filled with water, which locks the piston below in the cutting shoe. When you vibrate it down, the AquaLock stays empty until you decide to take a sample. You unlock the piston by lowering push-rods through the drill pipe, which opens the valve on top of the AquaLock, allowing the piston to move freely and take an undisturbed sample.

After sampling the spring push rod is removed allowing the valve to close, which creates a vacuum that holds the sample during retrieval of the AquaLock sampler. Once retrieved, you apply high pressure water behind the piston for sample extraction.

What can you use the AquaLock for?

Environmental sampling: You can accurately and rapidly locate impermeable layers, describe an undisturbed soil profile and take sub-samples for physical and chemical analysis.

Foundation research: You can take cost efficient and accurate samples with A3/B3 (ISO 22475-1:2006) quality to large depths.

Remediation drilling / well installations and cold-heat exchanging systems: In one run you can take a sample for profile description and, if required, install a well.

Archaeological sampling: Rapid sampling of a large area in a dense grid on archaeological remains.

Off-shore sampling of water bottoms: AquaLock produces long practically undisturbed cores of extremely mixed geology.

Pre-investigation of dewatering projects: Extremely rapid soil profiling, followed by, if required, well- installation.

Mineral sampling: Highly productive soil sampling in mixed geology with accurate layer thicknesses and sample composition.

Quality Assurance

Bores NT has attained the highest Quality Assurance certifications available to the industry today.

ISO 9001:2008

ISO 14001:2003

ISO 18001:2007

PLUS

CAL Certification in the Northern Territory

Our commitment to SAFETY,
ENVIRONMENTAL PROTECTION
AND QUALITY DRILLING RESULTS
are second to none



Environmental Policy

Bores NT takes all facets of its business seriously including ensuring that our entire team live their environmental responsibilities and strive to protect and preserve the environment at all times

We achieve this by:

Assessing, identifying and managing risks

Minimise or eliminate impact or pollution

Minimise waste and recycle wherever possible

Continuously improve our product usage , processes and procedures

Actively pursue continual improvement in our environmental, procurement and management plans

Developing and implementing energy conservation plans

Comply with all rules and regulations and environmental policies introduced by statutory bodies

SEEING IS BELEIVING

100% CORE RECOVERY THROUGH THIS



SONIC DRILL SPECIFICATIONS

- CRS-F XL Duo for CompactRotoSonic Drill head**
- Drill head mounted on hydraulic side shift with R03D035 4 speed rotary head
 - Hydraulically driven in serial or parallel mode Mechanical 4 speed selection
 - Shock absorber
 - Sub saver from rotary spindle to thread (to be specified)
 - Air / mud swivel, inlet 35mmAvailable

Speeds rotary head:								
	1^ speed		2^ speed		3^ speed		4^ speed	
	daNm	rpm	daNm	rpm	daNm	rpm	daNm	rpm
1^	45	840	90	420	185	200	370	100
2^	55	650	110	325	235	160	470	80
3^	70	520	140	260	280	130	560	65

- John Deere 4 cylinder water cooled engine 104 kW (140 hp)
- Fuel tank 190 litres
- Hydraulic system:
 - 1 load sensing pump 285 litres @ 300 bar max
 - 1 load sensing pump 130 litres @ 300 bar max
 - 1 gear pump 37 litres @ 220 bar max
 - Additional hydraulic cooler
 - 10 micron absolute filtering system
- Control panel on turning arm allowing different positions with view on drilling operations
- Drilling mast with 3500mm stroke 600 mm mast dump
 - Pull up 8 tons,
 - pull down 6,8 tons
 - Pull up speed 30 meters / min.
 - Pull down speed 30 meters / min.
- Double hydraulic break out clamp 60-280mm
 - Adjustable clamping force of 11.000 daN
 - Break out torque 2000 daN
 - Hydraulic break out cylinder (wrench not included)
- Rubber tracks, width 2000mm
- Radio remote for driving with charger and 2 batteries
- Winch
 - Pull at 1st layer 1000 daN,
 - speed 100 m/min 100m steel cable, 7mm diam.
- Water pump for AquaLock sampling, 19 litres @ 210 bar
- Flow pump for drilling, 160 litres @ 45 bar
- Working lights
- Standard paint white RAL 7035
- Aluminium water tank 500 litres



- Available options:**
- SPT auto drop hammer with blow count meter on control panel
 - Casing lifter mounted on break out clamp 20 ton, stroke 300mm

If you would like an invitation to the demonstration of this

Exciting and innovative new technology please contact

BORES NT

08 8988 8068

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