

Global investigations

Dando Drilling International's geotechnical drill rigs are finding work around the world, from Venezuela to Nigeria

Due to the increasing demand for geotechnical and environmental site investigation, testing and monitoring services, the drilling industry has recently witnessed a number of new developments in equipment and techniques.

As a result, UK-based manufacturer Dando has continued to make improvements to its shell-and-auger and hydraulic top-drive range of drill rigs, as well as launching new products, which are now working on projects around the world.

NIGALE BRIDGE

A Dando Multitec 9000 is currently helping in the investigations and the laying of new foundations for the 10.8km-long

Nigale bridge, the second bridge to cross lake Maracaibo in Venezuela, which will connect Santa Cruz de Mara with Punta de Palmas.

The link is being built by Brazilian contractor Odebrecht and was designed by consultant Cowi. Investigations are being carried out by Venezuelan engineering consultant and contractor Geohidra.

Working from JUP Sandpiper, a Combifloat C5 jack-up platform owned by geotechnical contractor Lankelma, the Multitec 9000 is drilling boreholes into the seabed to a maximum depth of 70m, through soft to stiff clays overlying mudstones.

Half of the boreholes are for sampling, with a core diameter of



102mm. Cone penetration testing (CPT) will be carried out in the remainder, using a modified wireline CPT, thereby combining ▶

A Multitec 9000 is working on the Nigale bridge foundations

► offshore techniques with near-shore jack-up operations.

The 9,000kg-capacity drill rig is capable of performing various drilling techniques, including reverse circulation, rotary air blast, conventional mud, auger, diamond wireline coring and standard penetration testing (SPT).

The rig also incorporates a host of new features, including remote umbilical tracking for easy tracking and control of the machine, a detachable and foldable mast section that can be fitted for the pulling of 6m drill rods, SPT swing-in hammer attachment and an automatic rod handler.

URBAN DEVELOPMENT

The company's range of cable-percussion drill rigs, the Dando 2000, 3000 and the recently launched Dando 1000, are designed to drill in soft to medium conditions and conduct U4 sampling and SPT.

One of the projects on which the tripod shell-and-auger rigs are currently being used is in Eko Atlantic city, a new urban development in Lagos, Nigeria.

A Dando 3000 with an optional hydraulic rotary attachment for coring and rotary drilling has recently been commissioned and is conducting soil-investigation and piezometer boreholes.

Performing SPT and U4 testing with percussion methods, the Dando rig has been drilling a 55m borehole per week in clay and sand formations, and the client, who is anxious to reduce downtime to a minimum, is said to be full of praise for the sturdy Dando rig.

It is of note that the client has recently ordered a further two comprehensive rig and tooling packages from Dando.

GEOTECHNICAL RANGE

Dando's 1000 Mk2 was launched last year for work in tight and hard-to-reach areas. The adjustable height of the mast derrick allows the rig to adapt to the job



Above left: a Dando 3000 rig working on the Eko Atlantic city project in Nigeria

Above right: the Geotec9 drill rig for Eritrea



Left: Dando's Terrier rig in Dorset, UK

in hand, and its simple collapsible design enables the rig to be positioned easily into working areas of limited space.

The Dando Terrier drive-sampling rig, in turn, has proved a popular solution for soft-ground core recovery and installing monitoring wells over recent years, being ideally suited to retrieving 100% uncontaminated, undisturbed samples in a sealable plastic liner from considerable depths.

The development of an optional rotary addition to the Terrier rig has given the machine the full range of functionality that would usually be found on larger machines.

The rotary-equipped rig has been used successfully for continuous flight auger, hollow-stem auger and down-the-hole (DTH) hammer techniques through hard rock, and due to the two-speed rotary motor, it has proved proficient at coring hard rock.

In Latin America, this rig is being used for blasting and coring with 3½in (9cm) DTH tools. Other major projects in the region include seismic drilling with auger or DTH equipment,



geotechnical investigation and SPT. The Terrier is also being utilised by the highly regulated UK nuclear industry.

The Dando design department is currently working on a design for a double-headed Terrier, which will be launched later this year.

The company's range of Geotec drilling rigs is capable of a full range of sampling and testing techniques, including SPT utilising an attached swing-in SPT hammer. The rigs are available with high-speed and high-torque rotary head options for auger drilling and/or coring. A Dando Geotec9 was recently commissioned to carry out site investigation in Eritrea. ♥

A training session with a Dando Terrier in Cornwall, UK

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