

TERRATEC delivers NEW DOUBLE SHIELD TBM



TERRATEC is pleased to announce the delivery of a new Double Shield TBM to the client after a successful performance of the factory testing on December 6th.

The Double Shield TBM will service the Xe-Pian Xe-Namnoy Hydropower Project in Laos, which is located in Southern part of the Country on the Bolaven Plateau, around 80km East of Pakse and 35km North-West of Attapeu. The Project is comprised of the construction of two central cored

rock fill dams, waterway tunnels with a vertical shaft and a power house generating capacity at 410 MW. The Main Contractor for the above work is SK Engineering & Construction Co. Ltd. of Korea.

SK has subcontracted the TBM tunnelling works to Seli Overseas S.p.A. of Italy. The tunnelling works comprise the construction of the Low Pressure Head Race Tunnel. SELI Overseas has entrusted TERRATEC to design and manufacture a Ø5.74m Hard Rock Double Shield TBM with

which to complete the 11.5km tunnel.

The TBM will bore through mudstone, siltstone and sandstone and for that propose, the CutterHead was designed by the Australian TBM maker with a very robust yet versatile concept, mounting Heavy Duty 17" disc cutters and keeping four large bucket openings. The 2,000kW Electric VFD Main Drive will allow the CutterHead to cut efficiently the hardest rock zones at the maximum speed of 7rpm and also to deliver an exceptional torque

of 8,000kNm to cope with those fractured parts of the alignment.

Other state-of-the-art features on the TBM include High-Speed regripping system, Single-Shield advancing mode, High-Pressure Emergency Thrust and many others. The key parts of the TBM were produced in Australia and Japan. The assembly of the TBM was performed at TERRATEC facilities in China.

Representatives of SELI

Overseas, SK E&C and Laos Government attended the Factory Acceptance Test and showed their satisfaction. The machine is now to be dismantled and sailed up to Thailand Port from where to send it by road up to the Project Site. The TBM is expected to commence its assembly at the field early 2015.

TERRATEC is celebrating its 25th anniversary in 2015. Since 1990, TERRATEC's core expertise on hard rock technology has been proven

on its Tunnel Boring Machines and Raise Boring Machines boring in different types of rock through many tunnels and shafts around the world.



TERRATEC TBMS BREAKTHROUGHS CONTINUE IN INDIA

TERRATEC is proud to announce four new TBM breakthroughs in India during the last two months. The recent breakthroughs are on the CC-24 and CC-34 Projects for Delhi Metro Phase-III.

These consecutive breakthroughs mark the continuous success of TERRATEC's technology in New Delhi Metro projects. Fourteen additional breakthroughs by TERRATEC TBMs are scheduled to occur over the course of the next months.

- On 8th Sept. 2014, TERRATEC's S37 Tunnel Boring Machine working on Contract CC-34 completed excavation on the down line from the Vikas

Puri Station to the cut and cover shaft near to the Janakapuri West Station. The contractor is a joint venture between Hindustan Construction Company Ltd. of India and Samsung E&C of Korea.

- On 30th Sept. 2014, TERRATEC's S28 Tunnel Boring Machine working on Contract CC-24 accomplished breakthrough after completing the drive between the Nizamuddin and Ashram Stations. The TBM has advanced 1,652m in one go without needing any stoppage to change cutting tools in such long drive. The CC-24 Contractor is a joint venture between J.Kumar Infraprojects Ltd. of India and China Railway Third Group (CRTG)

of China.

- On 7th Oct. 2014, TERRATEC's S36 Tunnel Boring Machine working on Contract CC-34 also completed excavation on the up line to the cut and cover shaft near to the Janakapuri West Station, just like its twin S37 did one month earlier.

CC-24 completed excavation on the down line from the Lajpat Nagar Station to the Vinoba Puri Station. The TBM has advanced a total of 833m steadily without needing any cutter intervention.

TERRATEC S26 and S28 TBMs are Ø6.61m Mixed/Rock EPB Shields. The TBMs mount 960kW VFD electric driven CutterHead with a



TERRATEC's S36 and S37 TBMs after breakthrough in CC-34 Project

versatile design which mounts 17" roller disc cutters interchangeable for soft ground cutting tools. TERRATEC's Mixed/Rock EPB design has already proven its efficiency boring quartz rock with uniaxial compressive strength over 200MPa earlier in Delhi Metro.

TERRATEC S36 and S37 TBMs are Ø6.52m EPB Shields with a classic soil configuration equipped with a Spoke-Type CutterHead of 58% opening ratio, which has been proven to be very efficient to excavate this type of soil along the drive. The CutterHead mounted soft ground tools, but it is designed to allow the replacement for 17" roller disc cutters, making the TBM to be able to bore through the D-walls and cope with the presence of any unexpected obstacle on its way, such as old wells or foundations.

TERRATEC has eight Tunnel Boring Machines currently excavating metro tunnels for Delhi Metro Phase III. Work will continue through 2014 with completion in 2015.



JV's Breakthrough Ceremony of S37 TBM in CC-34 Project

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