

## TERRATEC MTBM ready to **CROSS BANG PAKONG RIVER**



**T**ERRATEC is proud to announce a new Micro Tunneling System delivery in Thailand. The project is awarded by the Royal Irrigation Department of Thailand and the Joint Venture formed by the companies Ch.Karnchang PCL and Krung Thon Engineers Co.,Ltd. (KTE). This project aims to install water transmission pipe lines to transfer raw water from the East side of Chao Praya River to the Bang-Pra Reservoir. The Bang PaKong River is a major river system in Thailand which flows through Bangkok to the Gulf of Thailand. Water sent to the reservoir will then be treated and distributed to support many industrial estates at the Eastern Sea Board area which constitutes

the largest industrial area in Thailand.

The target is to complete the raw water pumping station, a 53 km transmission pipe line and the pipe jacking works crossing under Bang PaKong River which spans 380m in width. Bang PaKong River is the biggest river on the Eastern region of Thailand and it is the major transportation route to many farm lands. This main river also diverts flooded water from the northern region of Thailand. The pipe jacking works under the Bang PaKong River pose immense technical challenges. The river has a large 380 meters width span. The river bedding has unpredictable and uneven depths

which challenges the construction of the tunnel. The soil makeup of the surroundings poses another engineering challenge. Soft clay has a low shear and high resistance nature and collapses easily.

The water accumulates around the Tidal Flat. This water constantly moisturizes the soil and makes the clay soft. The soft clay makes the installation of the pipe jacking work more challenging. This is also the most critical part of the Project.

KTE acquired from TERRATEC a DN1800 Micro Tunneling System which consists of a Slurry MTBM, Slurry Transport System,

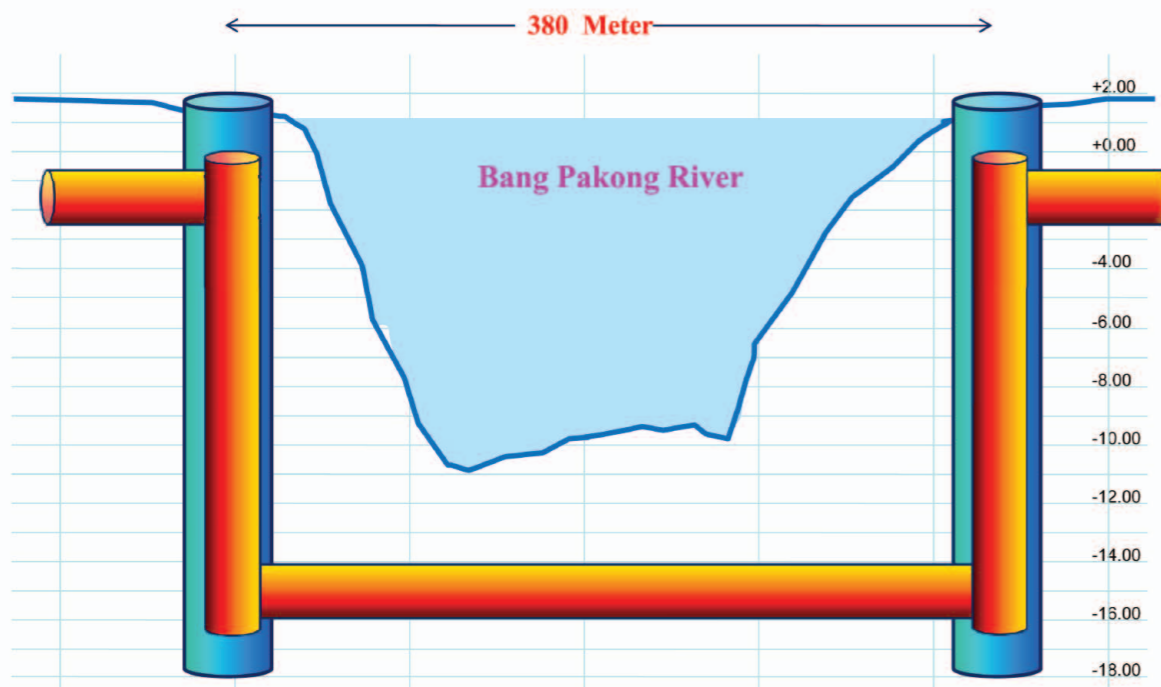
Intermediate Jacking Stations, Lubrication System and Lubrication Plant, and the Intermediate Jacking Station.

The pipes utilized by the TERRATEC MTBM have an inner diameter of 1,800mm, outer diameter of 2,120mm and a length of 2,500mm. The tunnelling drives are planned to have a maximum distance between shafts of 380m, for what up to 3 or 4 Nos. Intermediate Jacking Stations may be required.

A special type of pressure pipe is deployed in this project as the pipe transports drinking water. The steel lining concrete pipe is coated with a special liquid epoxy paint inside the steel lining. The liquid epoxy paint coating makes the water drink-safe. When the steel linings are welded together, the structure can

withstand pressure up to 10 Kg/Sq.m. The pipes' ability to withstand pressure allows the water to be transmitted over long distances.

KTE plans to start the Pipe Jacking work in early March 2014. The drive is scheduled to complete before the well celebrated Songkran festival in Thailand. On top of an elaborate set of equipment, TERRATEC is also providing KTE a comprehensive package of site services which includes the dispatch of some key engineers and MTBM operator to assist KTE during the initial execution of the tunnelling works.



## TERRATEC Delivers TR2000 RAISE BORING MACHINE FOR MEXICO

**T**ERRATEC has successfully completed the Factory Acceptance Testing of a TR2000 Raise Boring Machine. The TR2000 Raise Boring Machine was deployed to the Mexico market on Monday 24th March 2014. The celebration ceremony was held in Tasmania, Australia.

The Buyer, Minera La Negra S.A. de C.V., runs a mining operation in the state of Queretaro, Mexico, focused on silver, lead and zinc explorations. The mine is a subsidiary of a Canadian based mining company, Aurcana Corporation with headquarters in

Vancouver, British Columbia.

After extensive research and analysis, Minera La Negra has elected TERRATEC to be the raise boring machine provider to support its operations. The client has selected TERRATEC as the product delivers the best overall quality standards, technology specifications, competitive pricing and delivery time to market.

TERRATEC has developed a series Raise Boring Machines with its proprietary advanced technologies which are superior in its innovative design and

technology specifications. The TR2000 Raise Boring Machine delivered in this project is a robust piece of equipment, designed for easy operation and high reliability.

The TR2000 machine suits the typical requirements at mine site boring 250m long shafts at 2.5m in diameter. The design, production and deployment of the equipment was completely handled by TERRATEC in Australia. The TR2000 delivered has a Standard Pilot Hole Diameter of 279mm. The machine has a Pilot Drilling Torque of up to 78,000Nm, Reaming to 175,000Nm,



Makeup to 196,000Nm and Breakout to 203,000Nm. The Down Thrust is calculated at 530kN with Up Thrust being 3,100kN. The Total Installed Power on the machine is 242kW.

Founded in 1990, TERRATEC is the world-renowned Australian designer and manufacturer of Tunnel Boring Machines, Raise Boring Machines, Conveyor Systems and other custom-made products for tunnelling and mining applications. TERRATEC is proud to make another successful TR2000 deployment as the market once again demonstrates its trust and preference to reliable TERRATEC equipment. TERRATEC has deployed RBMs that are in active operation across the two Americas in the USA, Canada, Mexico and Argentina.



## WATCH US ON

Stay tuned for the latest videos about our latest projects and new technologies. Watch now!

## WHEREABOUTS

See you at these exhibitions!



Chihuahua, MEXICO  
Apr. 2nd - 4th



Iguassu Falls, BRAZIL  
May 9th - 15th



New Delhi, INDIA  
May 21st - 22nd



Sao Paulo, BRAZIL  
June 3rd - 6th

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