

Asia's largest Bucket Wheel Excavator System in Operation: Success for Tenova TAKRAF's BWE System at Zhahanaoer Mine in China

Open pit mining and underground solutions provider, Tenova TAKRAF, has completed the supply and installation of a complete Bucket Wheel Excavator (BWE) system for Zhahanaoer Open Pit Mine in Inner Mongolia, China. The system, which features the largest Bucket Wheel Excavator-Conveyor-Spreader-combination of its kind in Asia, was inaugurated with a celebration held on site in late November 2014, attended by representatives of the client, CPI Mongdong Energy Group. The inauguration followed successful performance testing, which confirmed the high efficiency and reliability of the entire system and exceeded the expectations of all parties.

The system consists of a large-scale Bucket Wheel Excavator SRs 2000 (rated capacity 6,600 m³/h) with loading unit, a 7,750 m long conveyor system consisting of 5 flights as well as a compact spreader with tripper car on rails. The Bucket Wheel Excavator reaches 30 m digging height, and although it has a service weight of about 3,300 t, it has a ground pressure much lower than that of a D11 Dozer. In order to properly handle peak capacities the conveyor system as well as the spreader have a design capacity of 7,900 m³/h. Those conveyors running along the excavator bench and along the waste dump are shiftable.

The project commenced in September 2009 with the Bucket Wheel

Excavator, spreader and conveyor system awarded in three stages from 2009 to 2011. The complete turnkey project covered design, supply, transport, on-site installation, commissioning and testing.

The project site is located approximately 700 km from Beijing in remote northern China, where the extreme climatic conditions see winter temperatures of down to -40 °C and summer temperatures of up to +40 °C. Despite this and other highly challenging conditions, the project teams achieved a smooth erection and commissioning process, completing the project on schedule in early November 2014.

The project is regarded as an important milestone in the development of China's mining industry, typified by a trend towards larger scale mines and mining equipment. It also provides a good example of successful German-Chinese-cooperation, which was celebrated in an impromptu couplet by the client representative at the inauguration: "Casting a New Chapter of China-Germany-Cooperation on the Grassland, Dancing a Big Dragon of Hand-in-hand in Sea of Coal."

For Tenova TAKRAF, the project continues its success with the supply of Bucket Wheel Excavators to China, and follows the delivery of two BWE systems to Yuanbaoshan in the 1990s.

Tenova TAKRAF is a key supplier of equipment and systems for open pit mining & underground solutions and bulk handling, having provided hundreds of complete systems, as well as individual machines to clients all over the world in all climatic conditions. Globally sourced air pollution control, specialized handling equipment, and technology for the cement and fly ash industries ensure selection of optimal processing options. Together with Tenova DELKOR, which has been fully integrated into Tenova TAKRAF, complete systems for coal washing and solid-liquid separation can be offered.

Tenova is a worldwide supplier of advanced technologies, products, and engineering services for the metals and mining & minerals industries. More information is available at www.tenova.com.

Image:



Fig. 1 (People.jpg): 6,600 m³/h Tenova TAKRAF Bucket Wheel Excavator at Zhahanaoer Open Pit Mine in China.

Source: Tenova TAKRAF

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Fig. 2 & 3 (Rainbow.jpg, Spreader.jpg): 7,900 m³/h Tenova TAKRAF Spreader at Zhahanaoer Open Pit Mine in China.

Source: Tenova TAKRAF



Fig. 4 & 5 (Conveyor1.jpg, Conveyor2.jpg): 7,900 m³/h Tenova TAKRAF Conveyor system at Zhahanaoer Open Pit Mine in China.

Source: Tenova TAKRAF

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