

Shantui bulldozers' mining mission

Shantui bulldozers are proving their worth at one Chinese coal mine. **Mark Andrews** reports

Yankuang Group is a large State Owned Enterprise (SOE) and the fourth largest coal producer in China. They are a large customer of Shantui equipment, particularly bulldozers, and with both companies based in Jining city in Shandong Province they have built a close working relationship.

The group's mining business, operated as the Yanzhou Coal Mining Company, dates back to 1966 and many of the mines are in the area around its headquarters. Nantun mine is one such mine and currently uses two Shantui SD22 and one SD23 model bulldozers. Previously they were using five SL50 wheeled loaders as well but these are currently in storage.

Production began over 40 years ago, at the end of 1973, and current estimates put the reserves at 136 million tonnes of coal. The mine reaches a depth of 670m with most of the workings being located 500-600m underground with three faces being currently worked. Coal is brought to the surface using a covered conveyor belt to minimise dust emissions.

The main duties of the bulldozers are piling the coal. Warehouses which look like towers are used to store the coal and the bulldozers need to push the coal to these. All three bulldozers are used every day and the working week is six days. Despite being about ten years old the SD22 models are still in remarkably good condition; the SD23 is much newer and only three years old.

"The bulldozers are very good and easy to operate" says Mr Wei, one of their drivers. The word Shantui in Chinese is synonymous with bulldozer as they control around half of the market for this type of machinery. In locations such as



SD22 (foreground) and SD23 Shantui bulldozers at Nantun mine

"OVERALL WE HAVE BEEN VERY HAPPY WITH OUR USE OF SHANTUI EQUIPMENT AND BEING COMPANIES LOCATED SO CLOSE TO EACH OTHER WE HOPE TO MAINTAIN OUR WORKING RELATIONSHIP FOR MANY YEARS"

WANG LEI.

the Nantun mine the equipment is tested to extremes. Winter sees temperatures below freezing whereas in summer it gets up to nearly 40°C.

Current output is a million tonnes per month and so all three bulldozers are kept very busy. Much of the coal is supplied directly to the Yankuang Group-owned Nantun Power Station situated a stone's throw away. In China it is common for many coal mines to have a connected power station to avoid transportation.

Both the SD22 and SD23 are powered by a 14litre Cummins NT855-C280 engine which provides the bulldozers with high

torque but low fuel consumption. "The bulldozers give us almost no problems. We regularly check the engines and gearboxes but it is usually just a matter of replacing small parts" says business manager, Wang Wei. In an environment like a coal mine problems with dust should be expected but the air filters are very strong so avoiding many issues.

Wang was less forthcoming about why the SL50 wheeled loaders are no longer used at the Nantun mine; they are still used at other Yankuang Group mines.

Yankuang Group has four core businesses which consist of coal, coal chemical, electricity and aluminium, and

machinery manufacturing. With its integrated businesses it is a major company in the area around Jining and the largest coal producer in eastern China.

The SD22 is the smaller of the two bulldozer models in use and is around 23.5tonnes, dependent on the kind of blade fitted. In the SD22 the engine is rated at 162kW power with a maximum torque of 1030Nm. With a typical straight tilt blade the dozing capacity is 6.4m³. Shantui also produce a SD22C version especially for the coal industry although the Nantun mine does not use this version. This features a special high-capacity coal-doing blade and an engine intake prefiltering system.

In the SD23 the engine delivers 169kW of power and slightly higher torque of 1036Nm. Overall the bulldozer weighs in at about 27tonnes. Dozing capacity with a straight tilt blade is 7.8m³. The maximum tilt adjustment is 1210mm.

The SL50W wheeled loader comes with a choice of Weichai Steyr WD615 or Cummins 6 CTA 8.3-C215 engine giving maximum power of 160kW and torque of 908Nm. The advanced Z-type reverse tipping bucket mechanism contributes to large breakout force and high work efficiency. Advanced dual pump technology helps to reduce fuel usage and work efficiency. . ●