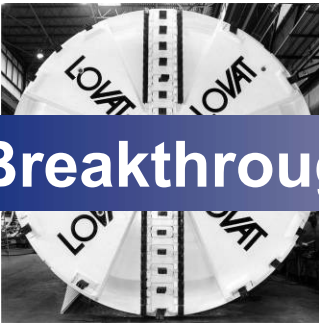


SUPPLY OF LOCOMOTIVES: METRO CHELYABINSK, RUSSIA



In 2006, MUP Chelyabmetransstroy purchased a LOVAT RME222SE Series 17300 Tunnel Boring Machine [TBM]. The TBM was shipped to the city of Chelyabinsk (located in the Ural Mountains) in Russia, for construction of the new Metro System. The TBM will bore a 5.6 meter diameter tunnel over 1,800 meters in length along a maximum slope of 3.2%.

Geological conditions at the opening shaft comprise mainly water-bearing weak loamy soil on the porphyrites, and sandstones mixed with weakly cemented crumbled and crushed rock. Along the tunnel alignment, a range of irregularly mixed and crushed igneous and metamorphic ground is encountered. Vertical intrusions of sedimentary and weathered ground, as well as hard porphyrite and sandstone are also expected. Depth of cover above tunnel crown varies from 4 to 32 meters, with groundwater levels along the tunnel alignment varying between 6 and 34 meters above the tunnel invert.

Recently, MUP Chelyabmetransstroy recognized two Locomotives would be needed for hauling out the excavated material quickly enough to keep pace with the production of the LOVAT TBM. An order was soon placed with LOVAT for the supply of two new Locomotives.

The 40 tonne Locomotives were tested and approved by MUP Chelyabmetransstroy and prepared for shipment. LOVAT delivered the two Locomotives to the job site in mid-January 2007. The Locomotives are now set up and ready to go into use.