

The Redbore 100 in operation at IAMGOLD mine in Quebec. Drilling a 14.5" (368 mm) pilot hole, in preparation for the raisebore from 1000 meters below ground

Drill pipes made of Buderus engineering steel for MTI and ... The largest raise boring machine in the world

In 2008, Mining Technology Inc. (MTI) signed a contract to supply drill pipes for the world's most powerful low-profile raise boring machine; the machine was developed and built by J. S. Redpath Ltd in North Bay, Ontario. The new Redbore 100 can operate with a thrust of 15,000 kN and a torque of almost 58.4 kNm. When this huge beast starts work, all the components must be tough enough to withstand the extreme demands – including the crucial MTI drill pipes and stabilisers made of Buderus engineering steel AISI 4330 V mod.

Over the past 50 years, raise boring has become a rapid, flexible and safe method, replacing the traditional method of drilling and blasting shafts for transport and ventilation in ever deeper mines. As mine shafts were driven ever longer and ever deeper, the volume of air needed for ventilation and cooling increased significantly. Whereas only holes with a diameter of 1 to 1.5 metres could be drilled in the 1960s, now drill holes of 7 metres and more, and a drilling depth of 1,000 metres or more are required.

Raise boring technology can handle these requirements. It also provides the advantages of quiet, turbulence-free drilling that requires no rock anchoring or additional ground supports to stabilise the cut solid rock. Raise boring provides greater safety without the danger of rock fracture, fire or the risk of explosion associated with other drilling and blasting methods. The method has its roots in the Canadian Shield.

The Canadian Shield, a large area in Canada covering the northern half of the

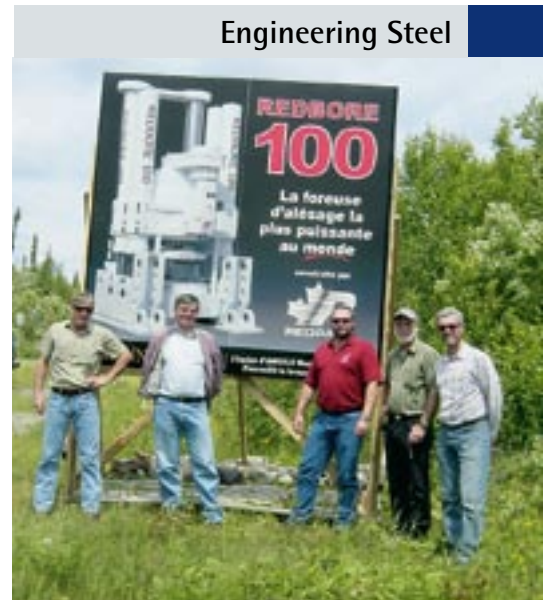
North American subcontinent is one of the world's regions richest in mineral ores, containing large reserves of nickel, gold, silver

In keeping with environmental responsibilities all water used in the drilling process is filtered through this massive permeable bag. Solids brought up in the water are captured and the water is recycled in a closed system.





Dan Coll, Buderus Edelstahl, Allan Mills, Senior Field Superintendent, JS Redpath Ltd., Mick Hardwick, General Manager, Consumables Div. MTI Michael Hammer, General Manager Forgings, Buderus Edelstahl, Martin Hunka, CFO, The Redpath Group, Dan Kelly, Manager Raiseboring Operations, JS Redpath Ltd



Mick Hardwick, Michael Hammer, Allan Mills, Dan Kelly, Martin Hunka, CFO, Redpath Group (from left to right)

and copper. There are numerous mines throughout the region. The largest and best-known is Sudbury, Ontario. Sudbury differs from other mining areas; significant data confirms that the Sudbury Basin is actually a crater caused by a meteor strike.

With its magnetic peculiarities, the nearby less well known Temagami region has similarities with the Sudbury Basin, suggesting that this is another metal-rich

impact crater. Both areas prepared the way for mineral extraction technology now used worldwide. Mining the hard rock in the Canadian Shield required all the mine construction engineers' creativity in terms of safety and productivity; they rose to the challenge.

The market leader, MTI, known worldwide for its expertise in raise boring and for its product quality, has standardised exclusively on high-tensile tempered forged en-

gineering steel from Buderus for its heavy-duty variant. In an industry where product quality is all-important, and errors would have a catastrophic impact in terms of costs and project delays, MTI relies on the knowledge of Buderus Edelstahl in matters of steel production, and on strict quality assurance on both sides. So Buderus Edelstahl is at work on every continent around the world in MTI's high-tensile drill pipes and stabilisers.

The team of General Manager Mick Hardwick and company President Bob Lipic and their skilled workforce, producers of world leading raiseboring products in Buderus material

