

SMALL BORING UNITS GAINING GROUND

Robbins SBU Division products are mixing things up with cutterhead models designed to bore in a variety of ground conditions.

SBU-As, SBU-Ms, and Rockheads are being designed with mixed ground cutterheads in addition to the "traditional" hard rock cutterhead design. The mixed ground cutterheads allow the machines to bore in dry alluvium with cobbles and boulders, as well as rock with clay or dirt seams. Larger muck openings in the head allow for boulder excavation.

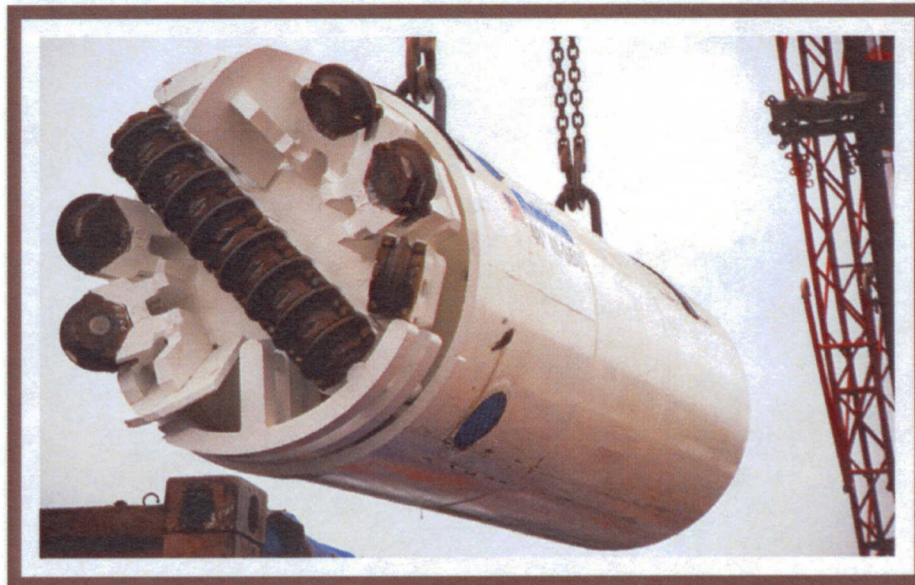
The cutterheads are customizable depending on the geology, and can include a combination of single disc cutters, two-row tungsten carbide insert cutters, or carbide bits.

Variations in cutting tools provide efficient excavation in different types of geology. In dry alluvium with cobbles and boulders, two-row tungsten carbide insert cutters are often used. This is because the cutters have multiple points of contact at the face, acting like traction in soft ground.

In medium to hard rock with clay or dirt seams, mixed ground cutterheads with single disc cutters are most often used. On cutterheads with both disc cutters and carbide bits, the disc cutter stands out a little farther in profile to excavate rock. When the cutterhead is in contact with seams, the bits clear out clay and dirt that makes it past the disc cutters.

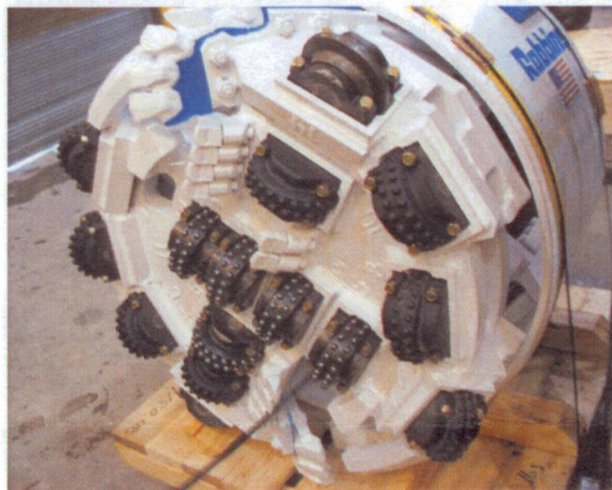
Mixed ground cutterheads are currently being used on several projects. Contractor SSC Boring of Phoenix, Arizona utilized a 600 mm (24 in) diameter SBU-A with mixed ground cutterhead to excavate two crossings 73 m (240 ft) and 110 m (365 ft) in length. Ground conditions consisted of cemented cobbles and boulders. The cutterhead was mounted with widely-spaced disc cutters and large muck openings to accommodate the geology.

"Before we used the SBU, we hand dug these types of jobs," said Arvid Veidmark III, owner and senior estimator of SSC. "We would push steel casing into the ground and then excavate using jack hammers and buckets. Our typical rates were 1.5 to 2.1 m (5 to 7 ft) a day." The mixed ground SBU-A has averaged 6 to 9 m (20 to 30 ft) per 8-hour shift.



Left: Mixed ground SBU-M utilized on the Milford Haven Gas Connection Project in South Wales, U.K.

Middle: Two-row tungsten carbide insert cutters are ideal in conditions with boulders. Bottom: A recent project in Phoenix, Arizona, USA, utilized a mixed ground SBU-A on two crossings.



EVENTS CALENDAR

Robbins will exhibit at the following trade shows:

2008

INTERTunnel
May 20 - 22
Turin, Italy

ISTT - No Dig
June 3 - 6
Moscow, Russia

NAT
June 7 - 11
San Francisco, California, USA

Engineering 2008
June 17 - 19
Krakow, Poland

IUT
September 17 - 18
Sargans, Switzerland

World Tunnel Congress
September 19 - 25
Agra, India

AFTES International Congress
October 6 - 8
Monaco



© 2008 The Robbins Company

The Robbins Company
29100 Hall Street
Solon, Ohio 44139 USA
voice: +1 440 248 3303
fax: +1 440 248 1702
www.TheRobbinsCompany.com

To subscribe to this newsletter, please contact: Desiree Willis, Technical Writer at willisd@robbinstbm.com or Brianna Home, Marketing Director, at homeb@robbinstbm.com voice: +1 253 872 0500