

MEDIA RELEASE

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AWARD WINNING CONSTRUCTION AT CURRAGH NORTH COAL MINE

Collaboration between Thiess and Broons Hire has resulted in the development of a major innovation for levee construction and contributed to the Curragh North Project receiving a High Commendation at the 2006 Engineering Excellence Awards.

Wesfarmers Curragh awarded Parsons Brinckeroff and Thiess the design and construct civil infrastructure works at the Curragh North Project in October 2004. Located 20km north of Wesfarmers' existing Curragh mine in Queensland's Bowen Basin, near Blackwater, the Project has received industry recognition for civil works undertaken, in particular the construction of an extensive 22km levee bank adjacent to the Mackenzie River.

With an average height of approximately 5m and a maximum height of 18m, the levee bank took nearly 6 months to construct and materials used were locally sourced fine-grained alluvial soils. Central to the construction success was the implementation of a major innovation which involved the use of non-circular impact rollers to compact the levee to engineered fill standards.

Impact rollers are typically used for ground improvement, not creating engineered fills to act as a water-retaining structure. Thiess undertook extensive trials with varying haul and spread techniques and altering moisture contents to find the most efficient construction technique.

The majority of the levee embankment was compacted using two Broons BH-1300 towed "square" impact rollers. Layers 700mm thick required 15 passes with the impact roller travelling at approximately 12km/h to achieve 98% density ratio.

The result ensured that at full production 20,000 cubic metres of clay materials could be placed in a day, proving to be possibly the most cost and time efficient compaction method available in Australia. The innovation has set the benchmark for impact rolling to be used for engineered fills in dam and levee embankments with further endless opportunities.





Designed to exacting environmental conditions, the Curragh North mine exemplified innovative, safe practices, infrastructure to reduce risk and meet demanding time and budget schedules in a constrained market.

Together the Wesfarmers Curragh, Parsons Brinckerhoff and Thiess team achieved outstanding results over the 14 month infrastructure construction period, with the project completed to budget and ahead of schedule, providing a world-class asset which makes a very real contribution to the Queensland economy.

