

Trollope calculates the benefits of operating Bell B60s

When in mid-2015, Trollope Mining Services became the first contract mining company in the world to acquire and deploy three Bell B60D Articulated Dump Trucks (ADTs) in one fell swoop, with a fourth machine added later, it did raise some eyebrows.

What many of those incredulous folks, however, did not know or realise was that the virtual evolution of the Bell B60D had happened right in front of Trollope Mining

Services' production teams. Bell Equipment's design engineers on the world's first such large ADT, had tested and retested the machine on mining sites where the former had mining contracts.

Trollope Mining Services had the four Bell B60D ADTs running on a coal mining operation close to Piet Retief in the south-east of Mpumalanga where there were some steep ramps, and at times wet and slippery underfoot conditions. This then started the erstwhile naysayers

muttering that this Bell B60D ADT, having evolved from a traditional ADT, minus one axle, had to have superior traction in wet underfoot conditions and that had to be the secret of its success - its traction. But there had to be more...

Fast-forward to 2018 and Trollope Mining Services lands another new coal mining contract, this time south of Emalaheni. And again, this innovative mining contracting company leads the way with four new Bell B60E ADTs. When we ask Francois Miller, Trollope's Mining Services Plant Manager, what their reasoning was, he says: "We had to look at the calculation of either six B40E ADTs or four B60E ADTs and in the end, we chose to have fewer tyres on the ground and chose the four larger Bell B60E ADTs."

"We still have the original Bell B60D ADTs and the first three have now given us over 10 000 hours of sustained service each and the fourth machine, which came later, has done just over 4 000 hours," he adds. "We enjoy the B60D ADT's positive all-wheel drive traction and great fuel consumption of between 28 and 30 litres an hour,

which is very good for a machine of this size and believed the newer design of the Bell B60E ADT would reflect much of the same, if not better."

The newer generation Bell B60E ADT is indeed packed with new features such as an electronically controlled direct-drive fan that provides superior cooling, standard on-board weighing, which is accurate to 5% and automatic traction control. The operator works from a cab that has been rated to have the best ergonomics in its class and from there, experiences the assurance of added safety brought on by the automatic Hill Hold function and neutral park brake.

Before starting the Bell B60E ADT, the operator views the daily service checks on screen. A 'Tip-Safe' feature prevents the aesthetically improved bin operating at unsafe angles or when overloaded. When shutting down the engine, the turbocharger benefits from an automated spin-down feature.

"At our new coal mining contract, the four Bell B60E ADTs are part of an 80-strong fleet comprising of ADTs,



excavators, water carts, graders and dozers and we work two 10-hour shifts,” Francois says. “They are used to haul both overburden and coal over distances that vary between 700 metres and 3km. They are returning much the same fuel burn rates as the Bell B60D machines at between 28 and 30 litres an hour, which fits our dry rate fuel cap per tonnes mined, perfectly,”

Although the Bell B60E ADTs are fitted with onboard load indicators, individual loads aren't recorded as bank cubic metres (BCM) have more meaning to the client.

The Bell B60E ADTs had been bought with standard warranties and all servicing under warranty gets done by Bell mechanics working out of Middelburg. Since their arrival on this site at the end of July 2018 they had, by mid-October in the same year, clocked up some 1 500 hours of service which points to their high mechanical availability.

Owners and operators of earthmoving equipment agree on one important aspect of sustaining operations and that is life of tyres. Francois agrees and expands on this important fact. “Yes, we did buy the Bell B60E ADTs for their superior 4x4 traction but compared to rigid trucks with the same carrying capacity, the Bell B60E ADT's tyre

wear is about 65% better,” he says. “We've analysed this on especially the load-bearing rear tyres and on a rigid truck with the same carrying capacity as a Bell B60E ADT, the tyre wear comes in at R6,93 per tyre per hour while the Bell B60E's figure drops down to R4,65 per tyre per hour.”

Francois mentions that each tyre gets a serial number and tread depth and tyre performance are both measured monthly. Indications are thus that after 10 000 hours, the rear tyres on a Bell B60E ADT should have only worn 45%.

“This means that while we plan on running a Bell B60E ADT in its 'first life' up to 18 000 hours, we should get between 12 000 and 13 000 hours out of the first set of tyres. We ascribe this to the fact that with the articulation there is no scuffing of the tyres when turning and, due to the truck's oscillation joint and all-wheel drive traction, the front wheels are always in contact with the ground.”

“It all comes together for us as innovative design, solid build and above all, superior traction and exceptional tyre life, make for a great truck in the Bell B60E ADT,” Francois says.



Francois Miller (left) Plant Manager: Trollope Mining Services with Bell Equipment Sales Representative Geoff Condon.