

# Zambia's Grizzly Mining achieves economy of scale with Bell B50Es



*The existence of emerald deposits in Zambia dates to the 1920s but it was only in the 1970s and 1980s, once prospecting and mining techniques had developed, that mining started taking place. Today the country is the world's second-largest producer of emeralds, a gemstone more than twenty times rarer than diamonds, and mining efficiently is just as important as it was when emerald mining first started.*

Located 48km southwest of Kitwe in the Lufwanyama Emerald Restricted Area is Grizzly Mining Limited, one of Zambia's leading emerald producers, founded in 1997 by the company's Chairman, Mr Abdoulaye Ndiaye. With humble beginnings as a small-scale artisanal mine, Grizzly Mining has grown into a large-scale fully mechanised mine involved in the large-scale mining, processing, grading, marketing, and supply of 'Grade A' emeralds.

The company is ramping up its production and has invested in 20 Bell B50E Articulated Dump Trucks (ADTs) to reduce mining costs by optimising economies of scale. "We are currently mining nine million tonnes of waste per year with plans to scale up to 15 million tonnes at the beginning of 2024 once the full fleet of B50E ADTs has arrived," says Grizzly Mining's Mine Manager, Langson Mukuma.

Maintaining the highest standards in the production and supply of its gems has been critical to the success of Grizzly Mining. The company's long relationship with Bell Equipment dates to when the mine was commissioned and has played a valuable role in achieving production targets ever since. At that time, four Bell B25Cs were used to haul the massive amounts of overburden that it takes to get to the emerald crystals, which are carefully removed by hand.

After about 16 000 hours of service, two of these machines were traded in on larger Bell B30Ds



before adding three Bell B35Ds, which were loaded by a fleet of Bell Excavators.

Today the Bell ADT fleet numbers 26, which includes three B35Ds, eight B40Ds purchased in 2017, five B40Es bought in 2018, and 10 new B50Es. According to Langson, Grizzly Mining has remained loyal to the Bell brand due to the unmatched reliability of its Bell D-series ADTs. The B35Ds and B40Ds have reached around 33 000 hours of production and are still going strong.

The first tranche of 10 B50Es was delivered in June 2022 and the oldest units have already clocked over 6 500 hours, which is hardly surprising when one considers that Grizzly Mining's operation runs 24 hours, seven days a week.

A further seven trucks were delivered in September and October 2023, and the remainder

into 2024. The fleet works three eight-hour shifts per day with the average haul cycle taking 24 minutes. Describing the underfoot conditions of the haul route, Langson says: "The ramps are only muddy in a few areas during the rainy season and gradients are very gentle averaging 11% with the steepest being 15% in a few sections. This makes the Bell ADTs well suited to our operation, especially when manoeuvring in tight spaces and in the rainy season when 6x6 is required."

The B50Es come standard with Bell Fleetm@tic<sup>®</sup> during the warranty period and Grizzly Mining can access basic productivity information such as the number of hours operated, tons per hour, and fuel consumption. So far, they have been impressed with the productivity of their B50Es. "They are very productive, mainly due to their larger size compared to the 40-tonners," says Langson. "The

---

*According to Langson, Grizzly Mining has been impressed by the “ergonomics, high productivity, excellent fuel consumption, and powerful engine” of the B50Es, which are providing “decent mechanical availability of 87%”*

---

B50Es each work an average of 560 hours per month, moving 800 tonnes per eight-hour shift and consuming an average of 31 litres per hour.” By comparison, the B40Ds return average fuel figures of 23,1 litres per hour, and 24,35 litres per hour for the B40Es.

According to Langson, Grizzly Mining has been impressed by the “ergonomics, high productivity, excellent fuel consumption, and powerful engine” of the B50Es, which are providing “decent mechanical availability of 87%”.

Grizzly Mining has also ordered four Kobelco SK850LC-8 Excavators to expand its loading tool fleet, the first of which was commissioned in early August 2023.

Chosen as an ideal to match the B50Es, Grizzly Mining has excavators from a few other OEMs in its fleet and thought it would be prudent to try Kobelco Excavators to compare their performance in both soft and hard rock.

Appreciating that ‘strong reliable machines’ need ‘strong reliable

support’, Grizzly Mining’s older machines are all serviced by their qualified in-house technicians, and the new Kobelco Excavators and B50Es will be serviced by Bell Zambia during the warranty period.

“The support we receive from Bell Zambia is very good,” says Langson. “Their technical team responds on time and, while there is still room for improvement, availability of parts is reasonable.”

