



11 December 2017

## **ASX ANNOUNCEMENT**

### **MERLIN TO PROCESS +20MM OVERSIZE MATERIAL USING TOMRA XRT SORTER**

The first kimberlite ore to be processed by the XRT in the coming weeks will be from the +20mm oversize material on the ROM pad and the significant amount (over 150,000 tons) of +20mm kimberlite ore processed by Rio Tinto during previous production.

This material will be used to fully commission the XRT sorter over the coming months and any contained large diamonds up to 40mm in size will be recovered. Recovery of large diamonds was not previously possible due to equipment limitations. There is a possibility of over 150,000 tons of material which can be processed for several months without significant mining costs until the Company commences mining the higher grade kimberlite from the Gwain pit.

As previously announced, Merlin Diamonds will be commencing operations with a focus on the recovery of large diamonds. The largest diamond recovered in Australia, a 104.7 carat stone, was from the Merlin diamond mine which has a history of producing large high quality white diamonds.

A new process plant will incorporate the processing of ore up to 40mm in size compared to 20mm that was previously used. The 20mm size screen apertures were not large enough to enable large diamonds to pass into the process plant.

To process the larger sized ore, a Tomra X-Ray Transmission (**XRT**) sorting machine has been delivered to site and is being commissioned. The XRT sorting process uses the detection of the carbon atomic density of diamond (similar to airport x-ray security systems) to separate diamonds from surrounding waste. This is in contrast to previous traditional x-ray luminescence sorting machines that rely on diamonds to luminescence when exposed to x-rays. However a proportion of diamonds display low luminescence and may not have been recovered.

It is expected that the new processing technology will also improve diamond recovery efficiencies in the +4mm material compared to past practices that may have not recovered some diamonds with low luminescence.

The XRT sorters work more efficiently, more accurately, faster and more cost effectively than conventional equipment

XRT sorters are becoming more accepted by mining companies with large diamond populations. Karowe have led the charge installing multiple XRT sorters to recover ever larger stones with recent success of recovering a 1,111 carat stone, the second biggest in history.

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The XRT provides an exciting opportunity for Merlin to recover diamonds that are larger than previously recovered in a cost effective manner.

### **Diamond Size Information**

What weight of diamond can be recovered when using a 20mm and a 40mm top cut screen size?

It has been estimated that using a 20mm screen size, a 40 carat stone can be recovered and for a 40mm screen, a 400 carat stone.

*Work continues on the commissioning of the Tomra XRT sorter*

