



**Productivity inefficiencies in the Australian mining industry  
13 August 2009**

Many mine operators believe that 21st century open cut mining in Australia is a mature and efficient exercise. These people are wrong! It might be mature but it is certainly nowhere near as efficient as it should be. This is despite significant changes achieved over the last 20 years which have come about through the reduction of restrictive work practices and structural change in the industry.

Shareholders and Boards of Directors are been informed that Australian open cuts are now among the most efficient in the world. The bottom line is that the average mine or contractor is not doing the right thing by their shareholders and utilising this very expensive equipment at anything like best practice productivity.

Mine operators have cut worker numbers substantially which has created the illusion of efficiency through improved output per employee but the average mine is currently underperforming across their equipment fleets by 20-50 per cent depending on the equipment. Best practice is achievable and is what the best operators are actually achieving worldwide, not some fictitious and unachievable number.

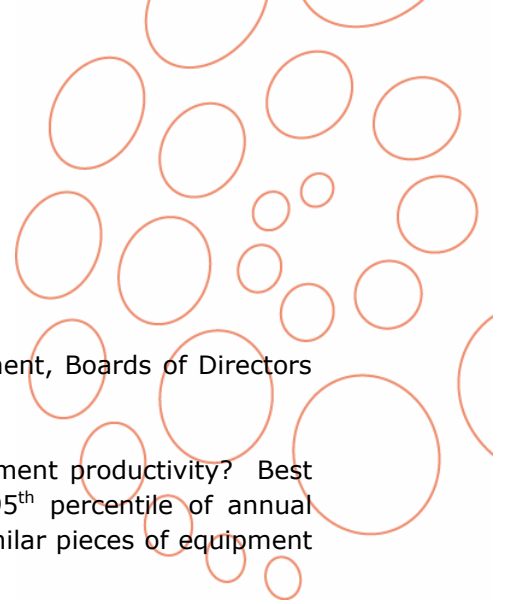
You start to get a picture of what this industry is doing when you consider a 28CuM class excavator, which on average under-performs best practice by 25%, is actually costing the mine upwards of \$7 million per year for one fleet.

A brief look at the last 50 years provides an interesting insight into the development of the current situation. Until the early 21<sup>st</sup> century, the mining industry, with the exception of a few isolated commodities over short periods of time, provided little in the way of profitability to its owners. During the 1960s and 1970s, an industry-wide culture of industrial deadlock and regulatory institutions that quarantined Australian operations from global competitive pressures made workplace reform very difficult. The wealth generated from mining operations provided relatively little for the shareholders. Australia's mining companies went through difficult times described by Leigh Clifford as 'profitless prosperity'.

By the mid-1980s, parts of the Australian mining industry started to respond to the opportunities and threats of globalisation. For example, the experience at Robe River in Western Australia where Peko Wallsend terminated the workforce in 1986 due to restrictive work practices was one of the first attempts to address restrictive work practices. They achieved over 200 per cent improvement in output per person. More than 10 years later Rio Tinto eliminated similar restrictive work practices in their coal mines. The coal mines in the Hunter Valley increased output per employee by over 100 per cent. Most of this was simply less people shifting the same amount in the same inefficient ways that they had always done.

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But what the mines did achieve was to get Executive Management, Boards of Directors and shareholders off their backs about efficiency.

So how do mines in 2009 perform with respect to large equipment productivity? Best practice for a piece of mining equipment is defined as the 95<sup>th</sup> percentile of annual output / tonne of rated capacity. This means that one in 20 similar pieces of equipment achieve this level of performance.

There is one model of excavator where best practice is 41 per cent higher than average and one shovel model where the difference is 37 per cent. In draglines the average difference between best practice and average is 30 per cent. Best practice drills are 286 per cent above average. Drills are an interesting case. There is a group of South American mines which drill 200 per cent more metres than the best practice in Australia.

The losses incurred by the Australian mining industry due to inefficient use of expensive equipment are large. Understanding these losses and how to improve efficiency to reduce them is what I intend to discuss over the coming months.

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