



Pandora and Mining Productivity **21 January 2011**

What does James Cameron know about mining and technology development? Quite a bit it seems when you absorb the fleeting view of the unobtainium mine on Pandora and scratch below the surface a little.

Do the unobtainium mines on Pandora in the 22nd century provide a more accurate picture to the future than what we as an industry are hurtling towards and potentially wasting huge amounts of money? To provide energy to the earth the energy-providing mineral must be sought in more remote and expensive locations. The first message there is that we will always need minerals and mines. Equipment is bigger. No surprise there. Suppliers will continue to make investment in the size of equipment. Some of the equipment is autonomous. Interesting isn't it? In developing his vision of the future mine James Cameron has the loaders being autonomous and the trucks with two operators. Look at the design of the Hell Trucks. They have two operators and sensing equipment all around. In fact everywhere you look in Pandora you see support for the people to do a better, more efficient job. And for us, like Pandora, that means assistance in operating in continually more difficult environments.

Let me diverge for a moment. The chasm between average performance and best practice is something I write about regularly in this column but I get the impression that it is too hard for most mines to deal with and the message isn't penetrating to the level where they actually care, ie. the shareholders. I suspect shareholders of most mining companies are fed the same banal results each quarter with statements as to how well they have gone (total is up) or explanations of problems encountered (total is down). There are usually promises of improvements to come. I get it because I am a (small) shareholder in a number of these companies and they do an excellent job of hiding their real productivity from shareholders.

Head Office
Brisbane Technology Park
Unit 2 / 53 Brandl St
Eight Mile Plains Q 4113
Australia
Ph: +61 7 3147 8300
Fax: +61 7 3147 8305
Email: gbi@gbimining.com
www.gbimining.com

South African Office
8 Corridor Crescent
Building B Ground Floor
Route N4 Business Park
Ben Fleur X11 Witbank 1035
South Africa
Ph: +27 13 6564114
Fax: +27 13 6564114
www.gbimining.com



OK so let's just reiterate some key numbers. The difference in 2008-2010 between best practice and average performance of trucks is 54%, hydraulic excavators, 41%, electric rope shovels 37% and draglines 34%. So when you hear that there are P&H4100XPC's moving over 55 million tonnes per year or Hitachi EX5500's moving more than 25 million tonnes per year, etc, etc, what do you think? I better not get monitors!!! How can I excuse or cover up what my mine is achieving? Psychologically, when people have lived with poor performance for a period of time, the mind accepts that it is just what the mine does and accepts that it is good for them. Have you ever heard that the mining industry is resistive to change? Surely not.

But hang on. Our large mining companies have technology development departments and pour millions of dollars into CRC's and universities. Yes - irritating isn't it. The industry as a whole in Australia is having problems with operating costs so huge amounts of money are being poured into finding new technologies so that we can use new technologies in inefficient ways. Automation is the buzz area at present and there is a lot of investment into it. However, is it the panacea for a profitable future? Experience suggests no. It will have specific areas where it does work but not universally.

Returning to Pandora and the difficult operating environment. Herein, is the crux of my argument regarding there needing to be more of a focus on people. Mines are getting more complex and more difficult to operate and to operate in but we have actually gone backwards to our approach to people. At some point in the mining process we will always rely on people. At present they control most of the equipment. In future there will be more automation but we will still rely on people. We should expect they will do an exceptional job; not just an average job. Consequently we need the right people doing the right jobs; we need those people trained properly and we need to support them in the field. This means, operators, supervisors, engineers and mine managers; accountants and clerks. They can all do a better job and can all add value. If you are not looking for ways to add value in your job every day you turn up and get paid then time to go to another industry.

Head Office
Brisbane Technology Park
Unit 2 / 53 Brandl St
Eight Mile Plains Q 4113
Australia
Ph: +61 7 3147 8300
Fax: +61 7 3147 8305
Email: gbi@gbimining.com
www.gbimining.com

South African Office
8 Corridor Crescent
Building B Ground Floor
Route N4 Business Park
Ben Fleur X11 Witbank 1035
South Africa
Ph: +27 13 6564114
Fax: +27 13 6564114
www.gbimining.com



If just some of the money poured into technology development could be focussed on these three key “people” areas, productivity gains would come from every mine....now. Not just that. The benefits we obtain now will be built on when new technology comes so that new equipment can be used efficiently and increase the return on our sizable investments.

Head Office

Brisbane Technology Park
Unit 2 / 53 Brandl St
Eight Mile Plains Q 4113
Australia
Ph: +61 7 3147 8300
Fax: +61 7 3147 8305
Email: gbi@gbimining.com
www.gbimining.com

South African Office

8 Corridor Crescent
Building B Ground Floor
Route N4 Business Park
Ben Fleur X11 Witbank 1035
South Africa
Ph: +27 13 6564114
Fax: +27 13 6564114
www.gbimining.com