



## WHITTLE CONSULTING

BUSINESS OPTIMISATION FOR THE MINING INDUSTRY

HIGHGRADE - CONSULTING

### Plenty of room for optimisation

Richard Roberts, 14 April 2010



Gerald Whittle ... rocking the boat.

GERALD Whittle is a salesman; an evangelist, he likes to say. Crowds of converts are not massive at this stage – there were about 40 at a presentation and two-day seminar in Perth last week – but there's no doubt more people are buying the Whittle message. Again.

"I've been doing this for over a decade and Jeff, my father, has been doing it for 25 years. We're excited about the current increase in awareness," Gerald Whittle told **HighGrade** on the weekend after returning, briefly, to his home in Melbourne. He was off to Africa, for the third time this year, the next day. He's also recently returned from Canada and has a heavy travel itinerary booked for the rest of the year.

"I think we've finally found the way to get the message across. We've always found that there's been a small group of people who really get it, and get excited, but the wider group of people ... are just not aware. It's our fault, as optimisation people – I don't just mean us at Whittle Consulting. We just need to communicate more widely. If people really knew what was possible, and how much value was still hidden in their projects, even though they've been over them and over them, over many years, using every approach they can think of.

"To find that there is still 50% NPV [net present value] left in their projects is a shock."



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Shock, as the psychologist's handbook notes, can give way to disbelief, denial, scepticism and maybe acceptance. New ideas in mining seldom get past denial – a fact many peddlers of (often profoundly sound) concepts and approaches have found to their cost. Whittle says he doesn't need to be concerned about business change deniers.

"I think we're getting a very positive reception," he said.

"We do tend to go through the phases over the course of a one-hour presentation, followed by the two days of training – the shock, disbelief, denial in some cases – not every case, it's just that people are different – and then scepticism, eventually some acceptance and then people embracing it. Lots of people are embracing it.

"I'm losing a few. From the feedback I'm getting I think maybe one in 10 people leave unhappy. You know, thinking it was a load of rubbish or it was wrong, but it's only one in 10. I'm not losing half the audience or anything. You can't keep everyone happy, and I've only got 16 hours. I'm sure if I had another session with them I could eventually talk them around.

"Or maybe not." Spoken like a true believer.

### **Shock and ore**

Whittle himself admits his preaching is more about philosophy and methodology, than technology or a radically different way of crunching mining or processing numbers. It's about turning a lot of conventional thinking on its head. A couple of examples set the tone:

- - Maximising reserves, the life of the mine and even treatment plant recovery rates, and minimising operating costs and start-up capital costs often leads to a reduction in value for the operating company.
- - Governments, shareholders, employees and other stakeholders do not necessarily want to see the longest project life if it just means steady, low-margin production extended over a longer period of time.



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- - Securing the financial viability of a project immediately, in the early life of the project, is fundamental to securing the backing and support of all stakeholders, and generating real wealth.
- - Optimise does not necessarily mean maximise.

"Actually the [seminars are] quite good fun because we murder, literally, a whole lot of sacred cows," Gerald Whittle said.

"I show a plan that actually maximises the economic returns – and by using the NPV that means the short term cash returns ... balanced with the long term considerations – and that invariably ends up with a shorter life of mine because we're trying to put cash out faster.

"When you take a business perspective you can show that the optimal plan often has smaller reserves, shorter life of mine, lower recovery because you go for higher throughput through the plant, and higher operating costs. So it's counter-intuitive and at first it sounds like madness but I can demonstrate and lay out in black and white that the cash coming out doubles in the first 4-5 years and the NPV goes up 25%, 35%, whatever – we've seen higher numbers.

"I will hear from someone that the mine life is shorter, the reserves are going to be smaller and shareholders won't like it. And I say, well I think they will. And they say well the government won't like it, and I say I think they will. And the labour force won't like it. And I say, well I think they actually will if you present the case to them.

"I think everyone has a common interest to see the project is successful. And if a project fails it is because it fails financially. That's the one thing that stops a project. Everyone wants it to keep going but if it's not making money it won't continue and so securing its financial viability I think is the fundamental thing you've got to do to secure everyone's interest."

Whittle is confident, above all, that investors will like the logic of what he is proposing, such that pressures on company managers and boards not to be different will subside.



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"I think the interest of the investors is entirely consistent with the sorts of things we're pursuing," he said.

"There's a lot of, 'oh yeah, I can't reduce the reserves because our share price will go down'. And the answer to that is, 'hang on, the investor understands the time value of money more than anybody'. He's interested in cash returns on his investment, and he wants those early not late. If you gave him more information and explained it to him, he wouldn't have a problem with it. He's as ruthless about the time value of money as anyone.

"But if you don't provide information – all you give him is a JORC statement that says one million ounces and then you reduce it to 900,000oz, it's no surprise that he thinks that's bad. And then the fact that the NPV has gone up 40% gets overlooked because you don't tell him that. So I think it's a communication issue.

"Investors are certainly not stupid. They just need the right information and if all they get in an annual report is what the reserves are well then that's all they can use. But you show them the cash flow graph which says you can double the cash flow in the first five years and they won't care what the reserves are."

Similarly, Whittle argues that what can be planned and executed with much more certainty in a near-term window is of greater interest – and value – to governments the world over, and to mine employees and ultimately to company managers, than many long-term mine plans designed along conventional lines.

"Whether it's royalties, social impact benefits, dividends or cash for exploration or new mines, most people won't have a problem with increasing the cash output of the mine in the short term. The fact that you're shortening the life of the mine down from 25 to 20 years is irrelevant, I would think. Why would you drag a business out on a marginal basis, where at any point in time you can come unstuck, over the maximum time? Why wouldn't you, if you can have a shorter project and make a lot more money, why wouldn't you do that?"



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“The people in this industry are not stupid by any means and if you present them with the facts and you lay it out in a logical fashion ... they’re all engineers and business people and for a lot of people the logic here is undeniable. But they need to be shown the evidence.”

Gerald’s parents Jeff and Ruth Whittle made the Whittle name famous in the 1980s and early 1990s with Whittle mine optimisation software, based around application of the Lerchs-Grossman algorithm. One big resources bank is said to have knocked back projects in the 80s that hadn’t been “Whittled” – optimised using Whittle software. The family ultimately sold the software suite to Canadian mining sector leader Gemcom.

The spirit, or philosophy, behind the software though remained within the family, with Gerald now chief channeller. In the first half of 2009, when the GFC hit mining investment for six, he spent months devising a presentation strategy and course outline to enable him to give audiences – face-to-face and via media such as the internet – a clearer idea of what “Whittle” now meant.

He also teamed up with engineering outfit Ausenco to broaden the small firm’s marketing and project delivery capacity.



New Whittle Consulting African principal, Steve Burks.

Whittle has since appointed an African principal, former Bateman chief technology officer Steve Burks, and is in the process of doing the same thing in North America. A pool of respected independent mining engineers, metallurgists and other industry professionals



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has been engaged to work on projects in Australia, and the network or “virtual office” concept is planned to be repeated in other regions.

“Whereas two years ago I think we were all guilty – those of us in the optimisation industry – of trying to explain how you do it instead of why you’re doing it, what I’m doing now is showing very clearly and succinctly why, if you change the structure of the business, you can extract value out that you never even believed was there. And we’re talking big percentages,” Whittle said.

“It’s not a technical thing: the course is about philosophy first of all [and] secondly, methodology. I refer to software once in a while, but it’s not a software course at all.

“I guess it’s hitting them hard with the idea that some of these paradigms that they’ve been following for a long time, that sound alright, are actually flawed. And that leaves them with a bit of a dilemma, because they can’t just go back to their desks and suddenly change what they’re doing either because they’ve got to communicate with their colleagues, their bosses, and ultimately the investors and everybody else. So we do spend a short session talking about change management and focusing on, okay, what are you going to do with this now? And it’s quite daunting.

“If you are the CEO then in theory you just go back and tell people what to do, but it’s not that simple either because people need to understand why they’re doing it. The CEO can’t just leave the room with more understanding – they’ve actually got to become a champion of this, and a communicator, and a persuader and do all the things that I’ve been trying to do for the previous 16 hours.

“And I add, quite deliberately, that I don’t recommend they try to do it the way I’ve just done it.

“I’ve got a limited time so I’m quite confrontational ... I just hit them with it and if I offend anyone then that’s alright because they don’t need to talk to me again. But I don’t suggest they go back to their colleagues and hit them in the face with it either because they do have to live with those people.



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"But Whittle once meant software, and I still get that – oh yeah, I know Whittle, that's pit optimisation. And I say yes, but that was 1984. That's step one out of 10 steps that are now possible. This is now 2010 ... it's come a long way.

"The brand recognition was strong. We've been working quietly with clients over the past decade and have probably lost that profile, and I'd like to get that back. You know, 'how could you possibly have gone and invested several hundred million dollars if you hadn't gone through this exercise? It would just be irresponsible ...'

"At the moment I've got people saying to me at the end [of the seminar], 'I didn't think that was possible'. And I've got to say, yes, well that's our fault for not having communicated effectively over the past decade as much as we should.

"And now we are."