The Whittle Story
A Live Book

How Whittle software gave mining a road map

By Richard Wooller, October 2018

I first met Jeff when he came to us at Rio Tinto Technical Services. I was interested to see in Ruth's AO speech that Four-D was developed in 1987. I didn't start at TS until 1988 and on his first visit Jeff presented Three-D. I must say that we did not see a use for it in our organisation, probably because we were involved in evaluating projects rather than designing actual pits. Mind you, when he returned with Four-D we immediately saw its benefits. On reflection, it was probably a marketing ploy.

Having Sun workstations, we negotiated to get the source code so that we could compile and run it on our hardware. I believe I had added some code for driving our printers. In agreeing to give us the code, Jeff showed pragmatism.

What is the difference between a civil engineer and a mining engineer? The civil engineer is concerned with the shape of the excavation, the process of getting there is of secondary importance. For the mining engineer, the opposite is the case. For the civil engineer it is the destination, for the mining engineer it is the journey.

We saw Three-D as giving us the destination but, for evaluating deposits, we needed the journey.

Four-D gave us the journey, and quickly. I remember projects where the geologists spent most of the budgeted time developing a deposit model which was delivered at the eleventh hour. With Four-D, I was able to generate pit shells, pushbacks and a mining schedule, sometimes literally within a day, for the financial analyst to produce a value for the deposit.

Over time, I developed a toolbox of programs to interface with our orebody modelling systems for input to Four-D, and to provide input to our OPD system for refining designs, our systems for cut-off and schedule optimisation, and to AutoCAD for visualising results. I got to use the software on projects involving a range of minerals from coal to gold, and from some of the smallest to the largest operations in the world.

Over my career using Whittle software, I got to visit many interesting parts of the world, mostly away from the usual tourist destinations. Probably the only continent, apart from Antarctica, where I did not apply the software is Australia. Too much competition there. However, I managed to swing several trips there for the Whittle conferences, even bringing my wife, Wendy, with me at times. At all these destinations I met a great crowd of people, including Jeff, Ruth, David and Gerald, as well as the team at Whittle Programming. All thanks to Jeff.

To read Richard's bio please scroll to the next page…

Richard Wooller BSc (Mining), MSc (Computer Science)

Richard has extensive experience in the international mining industry. Starting out in the early 1970's, Richard worked as a graduate mining engineer. In the 1980's, Richard was a part of the first wave of mining engineers to recognise the potential impact of computing for the mining industry.

For over 20 years, Richard worked for Rio Tinto as both a Consultant mining engineer and Associate for their Technical Services area. During this time Richard met Jeff Whittle and came to appreciate the value of Whittle Programming software.

Richard utilised Whittle software, including Three-D and Four-D, for over 20 years in many countries and across a range of commodities. Richard also developed a toolbox of programmes so that Whittle software could interface with the inhouse systems used by Rio Tinto.

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