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## PRESS RELEASE

### Death of mining optimisation pioneer, Jeffrey Whittle AO

Whittle Consulting has announced that their founder, Jeff Whittle, died peacefully on Monday 5th February 2024 at the age of 93.



Jeff became involved in the mining industry in 1979 when he joined Newmont Australia, later, Newcrest, as a contractor. He was fascinated by a largely theoretical paper published in 1965 by IBM researchers Lerchs and Grossmann, entitled, “Optimum Design of Open Pit Mines.” This described an algorithm to maximise cash flow from open cut mines, working from a block model of ore distribution, mining costs and pit slope requirements.

The only usable implementation of this algorithm was not available commercially. It had taken a prominent mining company many years and millions of dollars to develop. Jeff recognised the need for optimisation software in mining and offered to write an open pit optimiser program for Newmont, based on the Lerchs-Grossmann algorithm. When Newmont declined to commit funding to what they considered such a risky project, Jeff with the support of his wife, Ruth, decided to write it himself.

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In 1983, Jeff took time off from his contracting work to write the first commercially available implementation of the Lerchs-Grossmann algorithm, which was practical to use on the computers of the day. He improved the efficiency of the algorithm by devising an inverted model of block dependencies, which greatly reduced the storage requirements for the whole data structure. This enabled the structure required for real mines to fit in memory, which was often less than 1 megabyte, even for mainframes.

This was “Three-D”, which Jeff and Ruth licensed to mining companies as Fortran source code.

In 1984, they established Whittle Programming. Over the next 16 years, Jeff developed a series of mining optimisation software packages. These were successfully marketed and sold by Ruth to mining companies and consultancies all around the world. In 2000, Jeff and Ruth sold their business to Gemcom in Canada. This Whittle package of programs remains the industry standard toolkit to this day.

At around the same time, Jeff began work on multi-pit mine scheduling optimisation software. His ongoing development of this software resulted in the Prober series of optimisation tools used today by Whittle Consulting.

For almost 40 years, Jeff excelled at developing computer software which revolutionised mine design, strategic mine planning, and most specifically, the ability to optimise the efficiency and net present value of the most complex mining projects. Jeff created the term, “Enterprise Optimisation,” which is now common in mining industry parlance.

After making his last contributions to Prober in 2022, Jeff was happy that the ongoing development of his Whittle Consulting proprietary software was secure in the hands of the talented team at Whittle Consulting.

Jeff initially trained as an experimental physicist at the University of Manchester in the UK, gaining a degree with Honours in Physics. Jeff, Ruth and their young family emigrated from England to Australia in 1961. He was a pioneer of the computing age and started programming computers in 1962 whilst working at Defence Standard Laboratories in Melbourne. Jeff and Ruth became naturalised Australians in 1977.

Jeff’s legacy is profound. In the late 1960s, in his work on year 11 and 12 exam data processing, certificate printing and university place selection at the Monash Computer Centre, Jeff developed a standardised scoring system for the Higher School Certificate (HSC) which made all subjects equally difficult. The current VCE scoring system is an evolution of the system Jeff developed.

In 2018, Jeff was made an Officer in the General Division of the Order of Australia (AO) in recognition of his distinguished service to the information technology sector and the mining industry. Jeff made a speech to Probus in 2018 about his career and AO award. [Read](#) Jeff’s speech.

Jeff was a proud and loving husband, father and grandfather. He is survived by Ruth, their 6 children – Robin, Gerald, Paul, David, Judy and Matthew – and 12 grandchildren.

Jeff's life will be warmly celebrated at a funeral to be held in Melbourne in February. He will be greatly missed.

-Release ends-

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