

## **ALTERNATIVE RESOURCE MODELLING TECHNIQUE TO BE APPLIED TO WATERSHED**

- **The company has very recently requested specialist mineral resource consultants, McDonald Speijers, to investigate the amenability of the Watershed deposit to their “Recovered Fraction Modelling” technique. The initial review of the applicability of this method to Watershed has been favourable and it may generate a new model with a legitimate higher-grade resource amenable to economic extraction by selective mining.**
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### **Resources**

Resource estimates were conducted on the Watershed deposit in mid-2008 by two separate consultant groups, both of whom employed the standard geostatistical methodology known as kriging. This method uses geostatistics to calculate the best estimate of values for metal content (grade, expressed in the Watershed deposit case as per cent WO<sub>3</sub> or tungstate) using known values (from drill holes into the deposit) and projecting them into spaces – elsewhere in the deposit between the drill holes – where values are not known. Coffey Mining's estimates used Ordinary Kriging (OK). Hellman & Schofield conducted estimates that employed Multiple Indicator Kriging (MIK). These estimates used data from drilling conducted by Utah Development between 1980 and 1985 as well as data from drilling conducted by Vital between early 2006 and early 2008. These estimates have already been released to the market and will not be repeated here.

The kriging methods used are a means of obtaining an estimate of the grade of the entire deposit by generating the best possible estimate of the values that can be expected in the areas between the places where the values are known (the drill holes). To facilitate this process a volume model is generated for the deposit. It requires the deposit be divided into regular blocks with the known values (from each drill hole) close to the centre of each block. This has the consequence of the size of the blocks being determined by the drill spacing. At Watershed the drill spacing, except for three small areas where it is 10 metres by 10 metres in plan, is generally 50 metres by 50 metres. Kriging methods commonly adopt a block size with a maximum dimension that is half the spacing between drill holes or less.

Coffey Mining/RSG Global used block sizes of 20 by 20 by 10 metres for the 2007 estimate and 20 by 20 by 5 metres for the 2008 estimate. Hellman & Schofield used block sizes of 25 by 25 by 5 metres for their estimates (All block measurements being in the east-west, north-south and vertical directions respectively).

The process of kriging using such large block sizes results in smoothing of grades into volumes that are considerably larger than those that would be subjected to a selective mining scenario in an optimised open cut mining operation. This renders the existing OK and MIK resource estimate models for the Watershed deposit of limited use for manipulation in mining studies investigating the proportions of recoverable mineralisation in situations other than bulk mining.

The existing models are not suitable for studies of selective mining of the Watershed deposit where higher grades are confined to volumes smaller than the block sizes and the distribution of higher grade mineralisation shows strong variability over short distances.

In an attempt to overcome this problem, the company has recently requested specialist mineral resource consultants McDonald Speijers to review the Watershed deposit and investigate the applicability of their Recovered Fraction Modelling [RFM] technique. This technique was developed by McDonald Speijers in-house in the 1980s for use in open cut gold mines in Western Australia. Its pedigree is operational rather than theoretical and the method has been successfully applied to numerous mining situations - to gauge if extraction of individual parcels of mineralisation, for which the cost of conventional delineation by exploration and development drilling would have been prohibitive, was viable – where strong short-range variability of metal grades occur, such as is the case at Watershed.

This review has suggested the RFM technique may be applicable and useful at Watershed and McDonald Speijers has been commissioned to conduct a complete evaluation of the deposit and use their RFM technique to generate a revised model of the deposit and conduct a trial pit optimisation based on a selective mining scenario. The work will commence in late November and is expected to be completed by late December 2008.

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For further details, refer to the company's website, [www.vitalmetals.com.au](http://www.vitalmetals.com.au) or contact:

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*Note: "The information in this report that relates to exploration results, mineral resources or ore reserves is based on information compiled by Mr Bruce Arthur Pertzel, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Pertzel is an employee of Vital Metals Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Pertzel consents to the inclusion in the report of the matters based on his information in the form and context in which it appears."*