



**CONSULTANTS LIMITED**

April 19, 2010

Mr Tom Albanese  
Chief Executive Officer  
Rio Tinto Plc  
2 Eastbourne Terrace  
London W2 6LG  
United Kingdom

Dear Sir,

A great deal of my experience was put together in *Sampling and Weighing of Bulk Solids*. I did so after I had been Assistant to the Chairman of Cominco Ltd. For example, I derived unbiased confidence limits for the mass of metal contained in a mass of mineral concentrate or mined ore. ISO/TC 183 checked and approved this method. ISO published it as *ISO 13543:1996 Determination of mass of contained metal in a lot*.

Attached is a copy of my letter of November 30, 1994, to the Chairman, *CIM Ad Hoc Reserve Definitions Committee*. I pointed out that the mass of contained metal in a volume of *in-situ* ore is a function of volume, *in-situ* density, and a grade factor. This function, too, does have its own variance. In fact, one-to-one correspondence between functions and variances is a condition *sine qua non* in mathematical statistics. In geostatistics, however, not all functions do have variances. The variance of the distance-weighted average aka *kriged estimate* went missing. Drill core sections were crushed and salted at Bre-X's Busang site when I wrote the enclosed letter in November 1994. Geostatistics converted Bre-X's bogus grades and Busang's barren rock into a massive phantom gold resource. Mathematical statistics proved the intrinsic variance of gold to be statistically identical to zero.

The purpose of my letter is to suggest that the mining industry should to set up and support an ISO Technical Committee on reserve and resource estimation. It is simple to derive confidence limits for masses of metals in reserves, and to derive confidence limits for proved masses of metals in resources. My son and I did set the stage in 1992.

A handwritten signature in black ink, appearing to read "Jan W Merks".

Yours truly,  
Jan W Merks  
President

Enclosure: Matrix letter of November 30, 1994

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