



Professional Engineers  
and Geoscientists of BC

January 13, 2004

J.W. Merks, President  
Matrix Consultants Limited  
PO Box 4525  
Vancouver, BC  
V6B 4A1

Dear Jan:

Re: October 2, 2003 letter to Geoscience Committee

This letter follows up on our telephone conversation December 18, 2003, in which we talked about the concerns you raised in the above letter, the discussion of those issues at the Geoscience Committee meeting on November 26th, and the conclusions of the Committee with respect to those concerns. The concerns you raised relate principally to the application of geostatistics, as a "fundamentally flawed variant of classical statistics ...(which) violates the requirement of functional independence and ignores the concept of degrees of freedom".

Your original letter includes a short technical description of the differences between classical statistics and geostatistics. You and your son have applied classical statistics to ore reserve modeling, and have presented several papers on this topic, as well as writing a popular textbook on sampling. You have also discussed these issues with the CIM Committee on Ore Reserves/Resources (the body which currently sets the Canadian standard for ore reserve/resource definition under National Instrument 43-101), which advocates a geostatistical approach. Your fear is that commonly applied geostatistical methodologies can too easily overstate ore reserves. This would have obvious consequences for the companies and professionals involved, as well as any members of the general public who were induced to purchase shares on the basis of ore reserves which were later proven to be inflated because of the incorrect or inappropriate application of geostatistics.

We would like to thank you for laying out the elements under consideration so clearly. As you are aware, the Geoscience Committee is composed of a representative cross-section of members practising geoscience, most of whom are not involved in reserve/resource definition, and many of whom do not practice in the area of mining or mineral exploration. However, the Committee is not intended to be a technical body, and does not have the mandate to deal with technical issues. For these reasons, we are unable to offer an opinion on the issues you raise.

Given the high profile the controversy has achieved recent years in the popular press, we are encouraged by your intention to establish a dedicated website with concrete examples and case studies contrasting the results achieved using both methodologies. Showcasing the data will be a significant scientific and technical contribution, and the website will hopefully provide a venue for transparent and open exchange of ideas and information. Only this will establish a strong scientific case for advocacy of one method over another.

We appreciate you bringing this issue to our attention. Thank you for your consideration.

Yours truly,

Jenna Hardy, P.Geo, MBA, M.Sc  
Chair Geoscience Committee

**Yesterday's** *for*  
**Progress**

**Tomorrow's**  
**Promise**

Cc Members Geoscience Committee

200-4010 Regent Street  
Burnaby, British Columbia  
CANADA • V5C 6N2

Tel : 604.430.8035  
Fax : 604.430.8085  
1.888.430.8035

www.apeg.bc.ca