

## LETTER TO THE EDITOR

## Critic should give examples

Two articles in the *Financial Post* on resource and reserve estimation in the mining industry ("Whistle-blower raises doubts over orebodies" and "Consultant Jan Merks — a bit of a rebel," Sept. 30/02) suggest that the mining industry attempts to produce "aggressive" resource and reserve estimates (which I interpret to mean estimates that are too high) and that Jan Merks has statistical procedures, not used by others, that will save the industry from its folly.

The purposeful overestimation of resources or reserves means that eventual production will be much lower than expected; hence, profit (if any) will be lower, shareholders will receive either lower or no dividends, and bankers might not have their loans repaid on time, if at all. Clearly, such an outcome is ludicrous, and Merks's suggestion is insulting to the mineral industry. One can only hope he has been misquoted.

I am familiar with Merks's sampling textbook (a computer module, which he kindly sent me) and his published and unpublished works, some of which relate to sampling. In my view, it is clear that Merks is highly capable in the field of sampling and warrants comments such as those attributed to Norman Anderson in the articles.

Much in the two articles pertains to the use of geological information and geostatistics in resource or reserve estimation, matters far removed from the field of sampling. It is over these geological and geostatistical matters where there is substantial disagreement between Merks and the great majority of ore reserve specialists. In common with other published articles featuring Merks's views, the quotes and opinions are largely at odds with widely accepted technical views and are unsupported by any sound argument or reference to appropriate supporting material.

Merks has difficulty getting his

ideas published in technical journals, though, in my experience, the peer review system allows well-documented, controversial material to be published. He could write critiques of published papers, demonstrating their weaknesses by sound scientific argument or documented case histories. Editors of technical journals willingly publish thoughtful discussions that disagree with published works. Merks seems to prefer abrasive, opinionated commentary unsupported by factual information. The underlying problem with his approach is that there can be no detailed analysis and practical testing of his methods by others.

In my 30 years of involvement in resource and reserve estimation, I have not had the advantage of examining a resource or reserve study done by Merks. On the basis of his comments and his literature with which I am familiar, I have no idea how he would undertake a complete resource/reserve study of a deposit. It would behoove him to let the rest of the industry in on his various methods that lead to "proof" and "accuracy" in the final estimates.

I am particularly interested to know the "simple [statistical] test [that] can be administered afterward to verify that the assumptions [regarding the size and shape of an orebody, and continuity of mineralization] and the resource estimate are accurate." It is my view that the assumption of physical continuity of mineralization is purely a geological matter, and I am interested to learn how simple statistics replace geology.

Merks could also provide exam-

ples where geostatistics boosted estimates by 10% to 25% compared with other estimation techniques (including his own) and/or production. Perhaps his upcoming book will contain the documentation necessary to enable us to take Merks's concerns about geostatistics as seriously as we take his work on sampling.

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