



OMEGA Geo-Consulting Pty Ltd

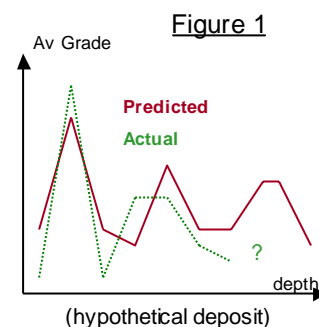
## ON MINE-TO-MILL RECONCILIATION

### Gap Identification

Table 1 and Figure 1 show significant discrepancies (a **gap**) between *Actual* and *Predicted*.

Table 1

ACTUAL / PREDICTED		
Av Grade	Ore Tonnage	Cont'd Metal
80 %	110 %	90 %



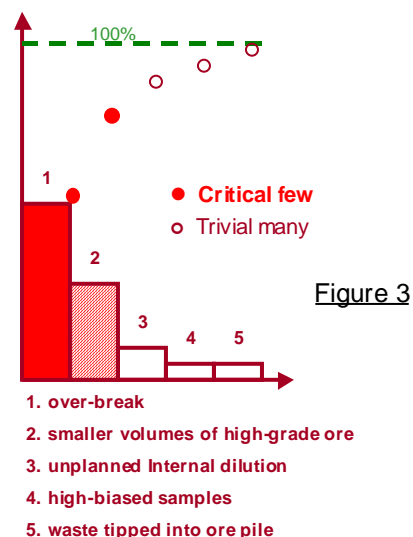
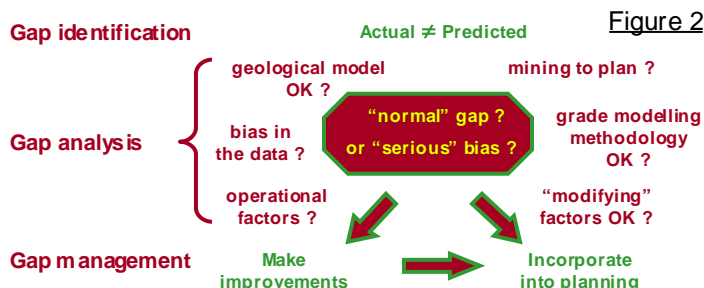
Following are some of the “burning” questions:

1. Any loss of resource?
  2. What went wrong: sampling, modelling, planning, mining?
  3. Other possible causes?
- } **How to fix it ?**
4. Or is it “**normal**” variation? In this case, the challenge is rather: **How to do it better ?**

### Gap Analysis

It is important to understand whether the gap is:

- Due to statistical fluctuations that will even out in the long run?
- Or systematic in character and indicative of a potentially serious **bias**?



A *root-cause analysis* is well justified to investigate the nature of the gap. A fact-based, cross-functional and multi-disciplinary approach should help address a host of *inter-related* issues (Figure 2) and identify, analyse and rank possible causes (Figure 3). In this example, over-break, a source of bias, is the largest contributor to the overall gap. Note that root causes have their own peculiarities and can either produce a bias or generate statistical fluctuations, which makes the analysis more challenging and rewarding.

### Gap Management

Once the gap and its likely consequences on operations are assessed, an *action plan* can be developed to address the root causes. Statistical fluctuations can be reduced to suit a specific production schedule. Sources of bias should be eliminated.

Experience shows that mine-to-mill reconciliation can greatly contribute to the management and optimisation of the orebody while reducing uncertainties and risk.

Reconciliation provides opportunities to re-engineer poor practices, develop performance improvement strategies and focus attention on common goals around the operation.