

Considering the scale of the proposed drilling program the construction of an accurate three dimensional model of the geology is going to be fundamental in planning and interpreting the drilling. The effort involved in such an exercise must be justified many times over by the more effective planning of the drilling. Logistically the problem in constructing such a model demands it should probably be constructed using a specialised computer package. Increased flexibility and time saving of a computer model would be most important. The expertise in this area already exists with the mine geologists.

Special attention should also be given to the proposed orientations of future diamond holes. If the main considerations are maximising the structural and lithological information in reaching a target then drilling at a high angle to the bedding orientation is essential. This can most only be planned if good structural data is available, and then most easily calculated on the stereonet (see Figure 9). In doing this it should be possible to minimising problems in core recovery due to drilling down orientations near the intersection of major joint populations. The relationship between bedding, jointing and joint intersections and drill orientations is illustrated using a stereonet projection in Figure 9.

Some effort was made in this study to develop a means of orientating core from the geometric relationships between bedding, jointing, fabric development, etc. There were no conclusive results in this area, though I do believe a great deal more information could be gained from the structural data in the core. Even if only limited accuracy can be achieved it may be possible to identify from drill core which limb of a fold the core is within and the approximate dip. This would add an extra dimension of confidence to cross-sectional interpretations. Some methods for solving these types of problems have been published in recent press and may be of use.

From the model of structure presented in this report there is many important implications for understanding and targeting VMS deposits in the Hellyer-Que River area. Whilst the specific details of structural geometry around Hellyer should be relatively accurate, given the data they are based upon, the overall model is purely an attempt to synthesise these observations. With regard to developing the model the next steps are clearly to test other observations of lithology, chemistry etc. within this framework. This is independent of the problems in understanding structural geometry of the area and should be clearly separated. Understanding the geometry is essential in the immediate exploration problems and is virtually unrelated to the genetic model of the VMS. The