Multiple Lens Zones

In areas of multiple zones, in particular at intermediate-to-deeper levels on the Caribou North Limb, it is estimated that up to 75% of the massive sulphide occurs in multiple lens zones. In order to maintain a stable, competent horizontal pillar between these lenses, minimum stand-off distances are established to support the waste-rock fill that in turn can lead to lower mining recoveries (Figure 2).

Figure 2 illustrates an example where under the current waste-rock backfill method only one lens, Lens 2 in this case, can be safely extracted locally resulting in poor overall mining recovery of approximately 47% of the mineralization. Paste backfill, an engineered fill, would allow for additional recovery of the mineralized material locked up within the vertical pillars as the minimum stand-off distance can be reduced, the width of the vertical pillar can be reduced or alternatively the majority of the mineralization can be sequentially extracted to approach a more typical recovery of approximately 94% of the mineralization. Ongoing work will model the potential additional accessible tonnages available from these areas.

Figure 2: Example of multiple lenses on the Caribou North Limb that could benefit from an engineered backfill.