



Figure 45. Generalised stratigraphic setting of Groote Eylandt Mn deposits (modified from Bolton *et al* 1990)

ore with average grades of $Mn \geq 40\%$, $SiO_2 \geq 11\%$ or $Fe \geq 7\%$. The top mining horizon contains concretionary Mn ore that no longer meets Run-of-Mine specifications. A number of manganese ore types are recognised, based on texture, ore/gangue ratio, grade attributes, mineralogy, degree of cementation and lateritisation (see Tables 1 and 2 in Pracejus *et al* 1988).

Widespread, variable, post-depositional, diagenetic supergene and pedogenic processes have produced a complex vertical and lateral distribution of Mn ore units or facies

(Pracejus *et al* 1988). Primary sedimentary structures in the massive Mn ore are preserved and are well documented in quarry G (Bolton *et al* 1988). Inversely graded beds are prominent in the lower part of the ore horizon and contain pisoliths grading uniformly from 2-20 mm in diameter over the thickness of the bed (Figure 46). Individual beds have been traced for up to 500 m along strike. Normally graded oolitic beds are present higher in the horizon, together with trough cross-bedding, ripple marks and burrow structures.