

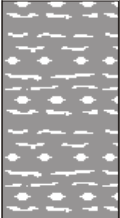

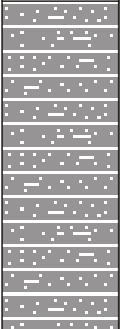
		Unaltered braunite lutite			Supergene altered braunite lutite					Weathering profile	Age
		Mineralogy	RD	Porosity	Mineralogy	RD	Porosity	Enriched elements	Leached elements		
	M-zone	Brnte, hem, Haus, Calc, Kutn	3.67	2-3	Brnte, hem, haus, calc, serp, crypt, todo	3.11	30	K ₂ O, Na ₂ O, Ni, Ba, Sr, Zn	MgO, CaO, Mn ₃ O ₄ , FeO ₃ , P, B, Zr	Strong alteration	Approx. 26-45 Ma
	C-zone	Brnte, hem, haus, kutn, calc	3.66	2	Brnte, haus, kutn, crypt, todo, pyr	3.1	10	Na ₂ O, K ₂ O, Zn, Sr, Ba	CaO, SiO ₂ , Mn ₃ O ₄ , P, Ni, Zr, B, Al		Approx. 10 Ma
	N-zone	Brnte, hem, jacob, haus, kutn, calc	3.6	0	Brnte, haus, serp, crypt, todo, pyr, quartz	3.06	10	Na ₂ O, K ₂ O, SiO ₂ , FeO ₃ , Al, Ni, Ba, P, Sr, Zn	MgO, CaO, Mn ₃ O ₄ , Zr	Weak alteration	Approx. 5 Ma

Figure 6.5 Generalised concept for the expected characteristics of unaltered and strongly supergene altered ore of the M, C and N lithostratigraphic zones present in the vicinity of the eastern suboutcrop perimeter of the Lower manganese orebody against the Kalahari Formation. Note the apparent age inversion as a result of the downward development of the weathering profile below the Kalahari Unconformity. Note: brnte - braunite; hem - hematite; haus - hausmannite; kutn - kutnahorite; calc - calcite; jacob - jacobite; serp - serpentine; crypt - cryptomelane; todo - todorokite. RD (Relative density in g / cm^3); porosity (vol %); Age (Ma).