

magnesium in the melt) in the reaction $ph + qtz = en + L$ by some polymerising effects. Further work on the likely elements whose enrichment in KMASH melts inhibit enstatite formation, will throw light on the generation of melts closer to lamproitic compositions from the KMASH system.

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KEYWORDS: phlogopite, enstatite, Ti-F-phlogopite, incongruent melting.

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Erratum

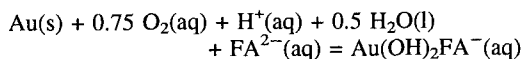
A table published by Bowell (1992; Table 3) failed to cite all four sources of the given data which were: a compilation by Groen *et al.* (1990) with additional information from Puddephatt (1978; 1987) and

Bjerrum (1971), and calculations by this author based on reported values of Gibbs free energies. The last group were incorrectly calculated and should be ignored. The literature sources are, in turn, compila-

tions of, or calculations based on, earlier published data.

Some of the stoichiometries of the gold complexes given in the Tables may not actually exist in nature. They are, however, the complexes currently used in the literature by several authors, partly because thermodynamic values are unavailable for other more probable species. The most stable stoichiometries for gold complexes in natural systems are likely to be of the type AuL_2 and AuL_4 (Puddephatt, 1987; Vlassopoulos and Wood, 1990; Peck *et al.*, 1991; Seward, 1993). Such complexes will dominate aqueous gold geochemistry, as shown by Colin *et al.* (1993) for the $\text{Au}-\text{Cl}-\text{H}_2\text{O}$ system.

In the initial table the stability constant of gold fulvate was incorrectly reported as the equilibrium constant. Although no ΔG_f° has been reported for gold fulvate, a series of experimentally derived stability constants for the reaction



has been published by Varshal *et al.* (1984) which are at pH 3.5, 5.8, and 7.5, $\log \beta = 2.7 \times 10^6$, 5.6×10^8 , and 8.9×10^9 respectively.

Despite the errors in the original table the conclusions concerning the dominant aqueous gold species, active in tropical soils are still valid. Gold-cyanide, -hydroxyl, -fulvate, and possibly -ammonia complexes will be active in the surface soils. Thiosulphate and possibly thiocyanate complexes of gold will probably only be important where dissolved sulphur levels are high, such as in the vicinity of oxidizing sulphides or where organic sulphur is released. It is unlikely that $\text{Au}-\text{Cl}$ complexes are important, due to a low chloride concentration in the Ashanti soil waters as well as the absence of the required pH and Eh conditions to stabilize these complexes in the weathering profiles. This conclusion agrees with recent experimental work on gold-chloride speciation at variable pH (Peck *et al.*, 1991).

KEYWORDS: gold-ligand complexing, soils, tropics, Ashanti, Ghana.

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