

REPORT CMS 80/11/47Notes:

This suite comprises mainly thoroughly ferruginised sedimentary quartzites (orthoquartzites) ranging from coarse, bimodally sorted to finer, relatively well-sorted types, and generally bedded on a millimetric scale. These rocks are of fluvial character and are unmetamorphosed. Ferruginisation is pervasive in the matrix, which appears to have been largely argillitic, with minor associated carbonate, and is a late secondary phenomenon possibly of lateritic affinities.

The rocks are variably manganiferous. Generally, the Mn-oxide postdates the pervasive limonite, although the two may be more or less contemporaneous locally. The general nature of the steely to dark grey and black stainings was confirmed by chemical tests (HNO₃/sodium bismutate). Brief polished section examination of specimen 1604³ confirms the assemblage to include pyrolusite, ?coronadite and degraded Mn-magnetite. Possibly, other Mn-oxide phases are present. There are no optically detectable metal salts.

Subordinate lithologies represented include ferruginised mica ?vein material (1604) and vein-quartz (1605, 1608).

Degraded sulphide is sparse and entirely restricted to rare grains of pyrite disseminated in the ferruginised psammities (1602, pyritohedral, possibly "syngenetic") and associated quartz veins (1605, 1608, cubic, hydrothermal). Quartz veins in 1608 appear to have included traces of base metal sulphide, but there are no boxworks, as may be expected in zones of pervasive late ferruginisation, such as reflected here, where boxworks, if formed, may be obliterated.

In summary, it appears the rocks may have been weakly hydrothermally mineralised in association with a quartz/mica + magnetite veining phase. Present base metal assays, however, evidently reflect the presence of metalliferous Mn-oxides and, probably, absorption onto limonite. The paucity of recognisable sulphide-derived limonite suggests the bulk of the anomalous values are exotic (i.e. introduced) rather than indigenous.

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Sections from TIN SPUR area.