

MINERAGRAPHIC AND PETROGRAPHIC DESCRIPTIONS

SAMPLE NO: BRCD – 10D 588.53 – 588.59 m

TYPE: Core

LOCATION: Borroloola Drilling 2006

FIELD IDENTIFICATION: Trace mineralisation (chalcopyrite) occurs in a limonite dusted quartz and possibly carbonate host. The sample reacts weakly with dilute HCl.

SECTION TYPE: Thin Section

CLASSIFICATION: *A limonite-dusted micritic limestone host may have a shallow water marine origin based on the tentative identification of relict oololiths. The limestone host has been pervasively altered to dolomite (or ankerite) and penetrated by secondary carbonate and quartz, as a possible diagenetic phase.*

DESCRIPTION:

MINERALS PRESENT:

Quartz	13%
Carbonate - dolomite/ankerite	86%
Opakes	1%

TEXTURE:

Limonite – dusted micritic carbonate dominates in the matrix preserving relict banding or bedding textures. Portions of the matrix have preserved indistinct circular (spheroidal) – possibly oolitic textures. The micritic carbonate matrix has been penetrated by a series of anastomosing veins and aggregates comprising coarser grained anhedral carbonate (relatively clear of limonite) closely associated with both microcrystalline and fine anhedral secondary quartz. Fine anhedral pyrite (opaque) is distributed through the carbonate matrix.

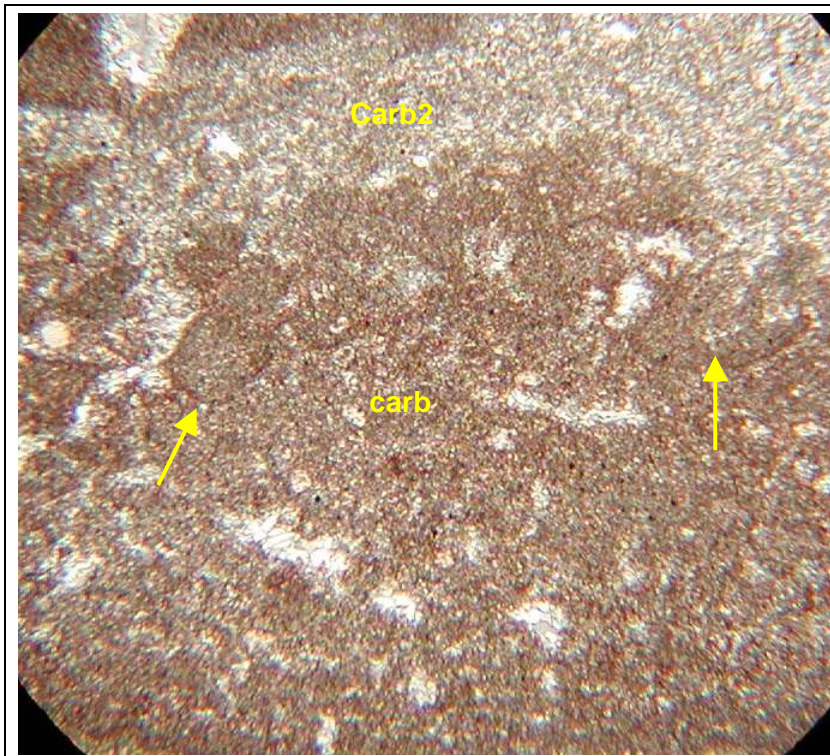
ALTERATION/METAMORPHISM:

The micritic carbonate host exhibits little evidence of metamorphism although the carbonate component has been dolomitised (or altered to ankerite). The introduction of secondary carbonate and quartz may be due to diagenetic processes.

COMMENTS:

The microcrystalline carbonate host probably represents a micritic limestone that has been dolomitised (or altered to ankerite) and possibly subject to later diagenetic or possible hydrothermal processes. The presence of possible relict oololiths also suggest a shallow water marine origin for the host.

Photomicrograph



The limonite-dusted micritic carbonate host has been penetrated by secondary microcrystalline carbonate and quartz as a possible diagenetic phase. The micritic carbonate matrix contains possible relict ooliths (?) (arrowed). Crossed. Field of view 3 mm.