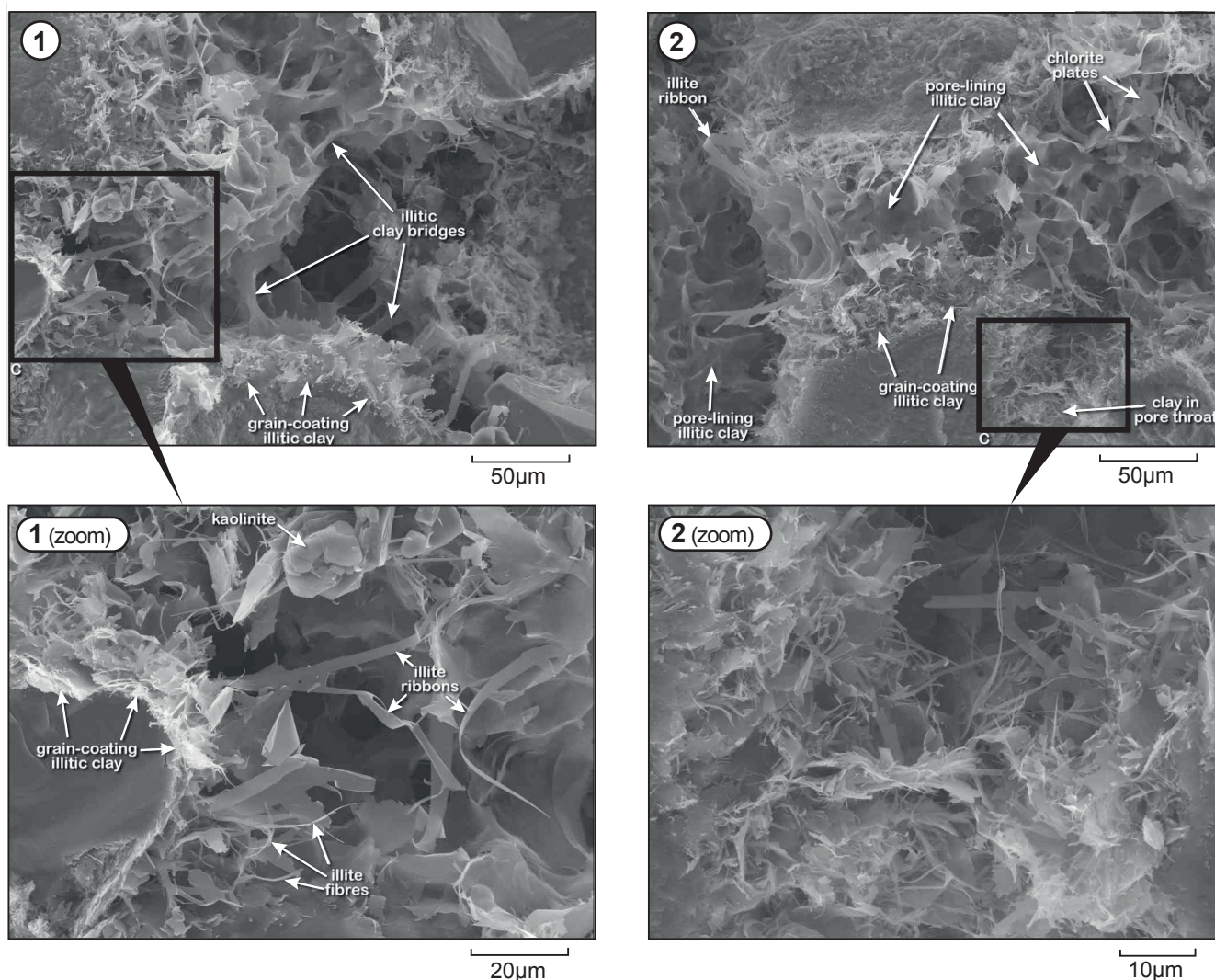


PHOTOMICROGRAPHS OF ILLITIC CLAY MORPHOLOGY



SEM photomicrographs showing the morphology of the illitic clays present in the Babbage Leman reservoir (scales indicated on each image).

Sample 1 (left) has porosity 16.5% and permeability 2.2 mD; **Sample 2** (right) has porosity 22.7% and permeability 1.1 mD. Both samples are from thin, aeolian-associated facies in the upper part of Zone C (48/2a-4). Inset boxes (outlined top) provide zoom view (bottom). Varied illite morphology is shown as grain coating, pore lining and pore bridging phases.

Pervasive, wispy fibres and ribbons extend into the pores (**1 zoom**). This grain-coating layer is overlain by a pore-lining phase (**2**) that shows a well developed honeycomb texture (**1 and 2**), and which fully bridges pores (**1**) and blocks pore throats (**2 zoom**). Kaolinite and chlorite are also identified in some samples. Porosity is primarily intergranular but fragmented by the fibrous illite network, leaving only microporosity.

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