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16th September, 1957

MEMORANDUM:

MISCELLANEOUS CLAY PETROGRAPHICS

Microscopic examination of four specimens of clay received has been made preliminary to further investigations. It should be noted that there is no evidence that the clays received are representative samples of their respective deposits, as such deposits are liable to vary in themselves.

From R. Walker, Smithton: - Pale, salmon pink, fine gritty material. The texture is uniform and the dry material crumbles readily to a powder. There are a few small spots on the specimen, of white material.

Under the microscope angular quartz grains are seen to make up the bulk of the material. They range in size from .3 mm. to .01 mm. and smaller. Some grains are clear, others are coated with iron oxide, which is the source of colour of the bulk material. There are occasional opaque grains and crystals of iron ore minerals. The amount of clay minerals present is very small; a little may be adhering to the crystals of quartz.

From L. Ready, Latrobe: - Pale brown gritty substance, containing sand grains and flakes of mica. Under the microscope quartz grains up to .5 mm. are visible, some coated with iron oxide, some clear. With the very fine quartz grains there are numerous plates and laths of clay minerals which also adhere to many of the quartz grains.

From L. Lockett, Black River: - Buff coloured substance, stained with organic material and iron oxides. It is somewhat gritty and contains occasional sand grains. Under the microscope the majority of quartz grains are quite small, averaging .03 mm. Clay mineral constitutes by far the largest part of the material. Organic material is fairly plentiful and may contribute towards the gritty feel of the dry powder.

From M. Good, Devonport: - Fine white clay with smooth feel. Under the microscope occasional sub rounded grains of quartz, measuring up to .05 mm. across, are visible. The rest of the specimen consists of laths and plates of clay mineral, with grey and white interference colours. However, some laths show higher colours so that muscovite may be present also.

Of these four specimens the last is the best. The specimen from Black River is grittier and more strongly coloured. Ready's specimen from Latrobe contains much quartz, while the Smithton specimen is composed principally of that mineral.

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