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URMISCA/47-48.

Department of Mines, Tasmania,

1772 Hobart, 15th August, 1946.

JH/S

TELEPHONES:

CLERK	.....
GENERAL OFFICE	.....
SECRETAR OF MINES	.....	4041-4042
GOVERNMENT GEOLOGIST	.....	(2 Lines)
PALEONTOLOGISTS	.....
DIRECTOR OF MINES	.....	8136
SECRETAR OF MINES	.....

MEMORANDUM:CALCITE IN TASMANIA.Use of Calcite as Pigments.

Calcite either as limestone, chalk or marble in a more or less pure form is quarried and prepared for use as a pigment by grinding under water and levigating to separate the coarser material. Whiting so prepared has a soft texture and is of pure white colour. It has no body or covering power when ground in oil, having a dirty yellowish appearance. On the other hand it has a good covering power when ground in aqueous media and for this reason is used in large quantities in the manufacture of distempers and kalsomines. It is also used when ground into a stiff paste with linseed oil as a putty for glaziers use. As it is a bulky pigment comparatively large quantities of oil (18 per cent) are required to make a paste.

Whiting is also used in the production of gesso grounds, by applying a coating to surfaces in order to give them correct properties for receiving painting, gilding and other decoration. It is employed in the decoration of picture frames and furniture to give a smooth ivory-like finish.

Tasmanian Occurrences.

Calcite in the form of limestone occurs in large quantities in many places in Tasmania notably, Ida Bay, Juneee, Gordon River, Melrose and Flowery Gully and as marble at Mount Arrowsmith.

Marble may also occur in the Hampshire district where limestones are intruded by granitic rocks but has not so far been reported.

Optical calcite has been reported as occurring plentifully in the St. Marys district, but I am unaware of the precise location which is probably in the vicinity of Grey.

The limestones are grey or off white when finely ground owing to included organic material. Small veins of pure calcite occur in the limestones but no where are they known to be of such size as to justify quarrying.

As there seems to be no chemical or structural objections to magnesium carbonate in whiting, dolomite could be used if of suitable colour. Many crystalline varieties which appear to be of a suitable colour occur in the Smithton district, although samples contained in the Geological Survey collection gave drab colours when finely ground. As analyses show that the total iron oxide is less than 0.25 per cent these dolomites are sufficiently promising to warrant further investigation to determine whether selective quarrying is possible.

The only known marble deposit occurs in the vicinity of Mount Arrowsmith, near the West Coast Road approximately 110 miles from Hobart. Apart from the actual location little is known of the extent and quality of the marble but when finely ground it gives a whiting with a soft texture and a pure white colour.

A sample of the whiting is submitted herewith.

Conclusions.

The only known occurrence of calcite which does produce a whiting of high quality when finely ground is the Mount Arrowsmith marble. Other deposits which warrant further investigation are the dolomites at Smithton and the lime silicate rocks in the vicinity of Hampshire.



FIELD GEOLOGIST.

Director of Mines.
HOBART.