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FOUNDATIONS FOR A NEW HOSPITAL BUILDING, DEVONPORT

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INTRODUCTION

A brief examination has been made of the geology in the vicinity of the Medical Centre, corner Don Road and Steel Street, Devonport, in order to provide a background for detailed foundation investigations by soil engineers.

On the advice of Mrs. Yenik of the hospital staff, the new buildings proposed are a Nurses' Home at the rear of the Medical Centre, and a Hospital (Maternity) wing adjacent.

The best available map of the area is "Devonport: Provisional Edition" on a scale of 20 chains with 20 feet contours, issued by the Commissioner for Town and Country Planning, Hobart, in 1958.

GEOLOGY

Underlying the general area is Jurassic dolerite, which occupies the flats near Valley Road to the south, and outcrops on Hillcrest Road to the west. At the Medical Centre this is overlain by a sheet of Tertiary olivine basalt. The base of the basalt is about 110 feet a.s.l. 15 chains south of the Centre.

On top of the basalt is a layer of Tertiary terrestrial sediments, at the most 20 feet thick. The bottom of these sediments (and top of the basalt) is close to 160 feet a.s.l., the boundary passing through the Medical Centre building. The sediments are quartz sand with quartzite pebbles, forming the friable grey soil south-west of the present building.

The basalt flow therefore extends from about 110 feet a.s.l. to close to 160 feet a.s.l., i.e., it is about 50 feet thick under the Medical Centre. The new buildings are both to be sited close to the 140 feet contour, so a depth of about 30 feet of basalt is to be expected.

An examination was made of the soil in a shallow excavation at the site of the Nurses' Home. This is a dark brown, friable "shaley" soil derived from the basalt and contains occasional rounded quartzite pebbles avaraging half an inch diameter derived from the overlying sediments; angular fragments of lateritic iron ore averaging a quarter of an inch, derived by lateritic weathering of the basalt and sediments; rare boulders of completely weathered basalt; and occasional boulders of dolerite which have been carried into the area.

CONCLUSIONS

Underneath the projected building site is about 30 feet of basalt, probably weathered to a considerable depth as coherent, porous, ferruginous clay. There is likely to be a permeable zone at the base of the basalt, which could be occupied by a soft white clay. Beneath this is solid dolerite bedrock, several hundred feet thick.