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National Research Council test hut at Fort Churchill

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DIVISION OF BUILDING RESEARCH

No. 117

TECHNICAL NOTE

NOT FOR PUBLICATION

FOR INTERNAL USE

PREPARED BY K.R. Solvason CHECKED BY APPROVED BY R.F. Legget

PREPARED FOR DATE 24 January, 1952

SUBJECT National Research Council Test Hut at Fort Churchill

Part of Report on Mr. Solvason's visit to Churchill, 1 August to 13 August 1951.

The changes in the test hut were made without any difficulty. My original plan was to have a concrete slab placed on gravel fill beside the utilidore just north of the former hut location. I became somewhat alarmed, however, at the possibility of the slab heaving to tilt the whole hut at an unsightly angle. I, therefore, had the slab placed directly over the utilidore on the wooden covers with the plates at the bottom of the legs on the steel stand placed in the concrete. The four walls and roof of the hut were detached from the old floor, raised, the new floor slid under and rebolted. The whole hut was then lifted onto the steel stand with a "quick raise". To do the job an almost unlimited supply of manpower was placed at my disposal. At one time I think there were about thirty men present. Thus the job which was started about 1:00 p.m. Saturday afternoon was completed before 5:00 p.m.

This left only the new heating and control system to install and the thermocouples to reconnect, which I was able to do without any additional help.

Considerable shrinkage appeared to have taken place on the plates of the walls. This should probably have been expected, since, at the time of erection last November the moisture content of the wood was likely very high. This shrinkage produced a small crack between the plates and the roof and the floor, which undoubtedly accounts for a corrected heat loss of 15 to 16 b.t.u. per hour per degree temperature difference as compared to approximately 13.8 for the Saskatoon Hut.

Mr. Kroll of the D.R.B. staff, who will be taking the readings, was very carefully briefed regarding the present set up and the readings we wish taken. Mr. Kroll is a very likeable young man who will, I am sure, give us all the co-operation possible.

The present temperature control system appears to be very reliable so that, I think, we can expect some excellent results this coming winter. The K.W.H. meter readings can be taken either daily or weekly. One meter was left at the switchboard in the block and the other placed in the hut. Thus the meter in the hut will meter the power used in the hut and this reading can be used to correct the switchboard meter reading for the line loss to the hut.