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Department of Mines and Resources  
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Dominion Observatory

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SEISMIC RESEARCH PROGRAM  
ROCK BURST PROBLEM  
LAKE SHORE MINES

Intensive Seismic Program  
Report No. 3  
June, 1945

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Ernest A. Hodgson

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INTENSIVE SEISMIC PROGRAM  
LAKE SHORE MINES, KIRKLAND LAKE  
4702E - 4802E

Nos. 62 - 85 : June 1 - June 30, 1945

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The program, as described in the first report of this special series, has been continued throughout June. The month has been remarkable for normal or sub-normal seismic activity throughout. Toward the end of June, there was some activity in 4702E4, which showed up in the regular program on H59 and also on H62 in 4502E4, on the level above; but it was not detected at the holes in the new program, with the possible exception of H72 (Pl. 81). This was probably due to the fact that the activity was not strictly local nor at all critical and also to the shallow depth of the N.P. holes (4' - 6') as compared with the 30' depth of H59 or H62.

There was considerable instrument trouble during the first half of the month. On June 4, G57 in H97 failed (Pl. 64). On June 5, G55 in H74 had become so poor, overnight, that it failed to record the tapper or even the early morning blasts. When trying to remove G55, which was found stuck in the hole, the cable pulled off at the amphenol. As the ground was too shattered to drill another hole near H74, it was finally decided to load a geophone in front of G55 in the same hole. Accordingly G16 was loaded into H74 on June 11 and gave good service thereafter. G65 in H101 went bad overnight on June 15 and was at once replaced by G46.

The 3A attenuator gave trouble from time to time in the early part of the month (e.g. Pl. 65, June 5). It became worse on June 11 (Pl. 71), so Hallick went down and repaired it, after which there was no further trouble from this source.

A faulty connection on the 3AB set gave trouble in the P.M. recording on June 5 (Pl. 66). It was detected by Hodgson on June 7 and repaired.

There was some interruption due to the power being off, particularly on 4825 over the week end of June 10-11 (Pls. 70-71). This resulted in the switches being out-of-step.

The sections on 4800 are identified by numbers written on the tape for these two dates. There was no real loss of coverage but the lay-out of the plate is affected.

The motor switch on 4700 showed signs of trouble on June 13, being out-of-step. It was adjusted and was still all right on June 14, but on June 15 was found stopped. Hallick located the trouble in a burned out transformer. He took the switch to surface, installed another transformer and restored the set-up to schedule on June 16. In the meantime only H71 recorded (all sections) from 4700.

On April 24 Hallick wrote Hodgson to the effect that there was enough Teledeltos paper for only 45 days. After writing to Lake Shore re the amount to order, Hodgson requisitioned a supply on May 4 and the order was placed by the Department. When nothing was heard of the order at Lake Shore early in June, an urgent message was wired to Ottawa and relayed to the Western Union Telegraph (manufacturers of the paper), who replied under date of June 11 that it was being shipped that week. A message since received states that it was shipped June 14. As of the date of writing (July 7), it has not been received and the shipment is being traced by C.N.R. officials at Ottawa.

In spite of the unusual amount of instrument trouble on the new program this month, there has been very little loss of coverage except that due to the lack of Teledeltos paper. On June 19, the recorders on the regular program were discontinued and the paper on hand used to run the special program till June 23. There was a lapse then till June 28, when Hallick began using some old-stock, oversize rolls which he has to trim down laboriously by hand. Making use of this supply, it is hoped that it will be possible to keep the new program (only) running until the shipment is received.

Dominion Observatory,

Ottawa, Canada,

July 7, 1945.

E. A. H.

