

## IV Preliminary Report of Seismic Soundings along the Route to the Yamato Mountains

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### IV やまと山脈調査旅行地震探査報告 (予報)

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#### 要 旨

やまと山脈への調査旅行の途次において270kmの距離にわたり、10 km 毎に地震探査を行なった。

その結果、第3図に示したような大陸氷下の地盤高を知ることができた。

The route of the Yamato Mountains traverse party is shown in Fig 1. Reflection seismic studies were made from station A to station E on the route. We used ETL M-312 trace seismic reflection apparatus, the natural frequency of its geophones being 20 cps. It was mounted on a caboose, hauled by a snow-car. The 12 geophones were placed at intervals of 20 m, straightly along the traverse route. The shots ranged from 1 to 2 kg of TNT placed in 2 boreholes, drilled 1 or 2 m apart, to the depth of 4 m to 6 m in the center of the 12 geophones.

The seismic prospectings were made at intervals of 10 km along the 270 km route. Ice thickness profile obtained from the seismic prospectings is shown in fig. 3, where the dotted lines indicate that the clear echoes were not observed at the stations concerned. Surface elevations were determined by an altimeter. At the station near A, refraction shooting methods were employed in investigation of velocity variation with depth, but

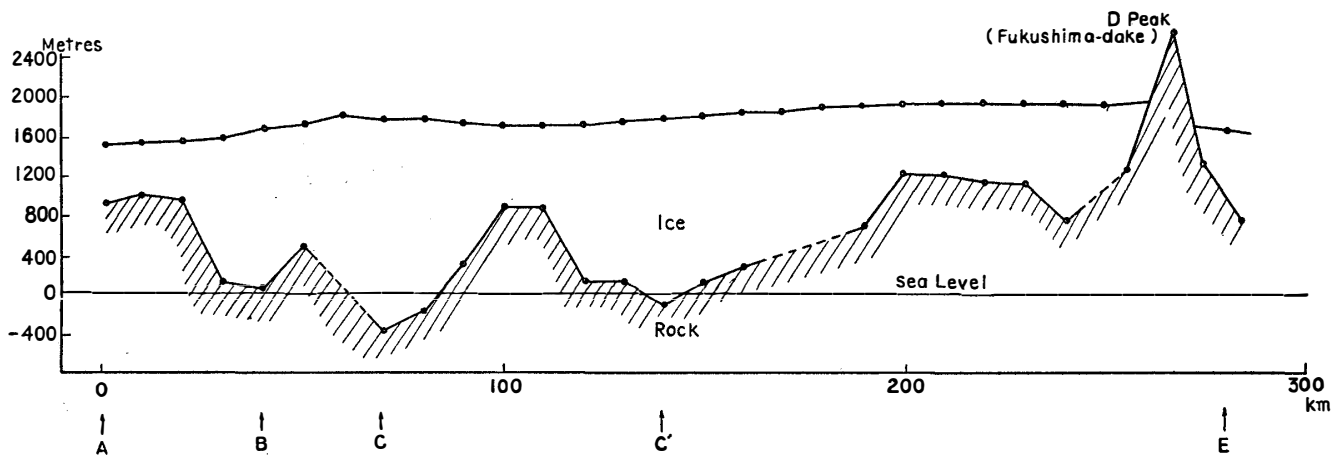


Fig. 3

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analyses of the records of refracting waves have not been completed, hence the P wave velocity used for depth calculations was taken as the estimated mean values of 3830 m/s.

As shown in fig. 3, three deep valleys were discovered along the traverse route. The places corresponding to the valleys are denoted by B, C and C' in fig. 1. These may be the sources of the Shirase Glacier.

Details of further discussions on this research will be reported later.

*(Received June 10, 1961)*