

SOME GEOPHYSICAL STUDIES IN SURTSEY IN 1964.

by

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- 1) A provisional seismograph was operated in the Vestmann Islands from Jan. 23 to April 11. It was assembled from parts obtained from the Department of Natural Heat and the Meteorological Office, Reykjavik. The seismograms have been read, but no comparison has been made yet with other data on the eruption. Due to excessive use of recording paper its operation had to be discontinued in April. At present it would be possible to operate it again for some time.
- 2) In the expedition of Nov. 25 I made an attempt to measure the electrical conductivity of the flowing lava near the sea. The result was somewhat uncertain, but a resistivity of 2 to 8 ohmmeters was indicated. The measurement was made with a four electrode arrangement and an ordinary earth resistivity apparatus. The temperature of the flowing lava was estimated at 1150°C according to measurements by Prof. Thorbjörn Sigurgeirsson.

The experiment was repeated on Jan. 18, 1965. Although this work was not done in 1964, the results will be given here. A two electrode arrangement was used instead of four. Readings were easily obtained and gave a resistivity of about 4 ohmmeters in good agreement with the former result. In view of the agreement between these two experiments, the results are considered fairly reliable.
- 3) Gravity measurements in Surtsey were planned in 1964, but due to reparation of the Worden Gravity Meter of the Department of Natural Heat, these could not be carried out. The Gravity Meter was repaired in November, and has been taken

to Surtsey twice in January 1965. The results are not yet available. It would be desirable to take gravity readings on all neighbouring islands where a helicopter could land. Such measurements would only take a few hours.