

BRANCH REPORTS

APIA OBSERVATORY, WESTERN SAMOA

Director : Mr. J. W. BEAGLEY

Since the reversion of the control of the geophysical work at the Apia Observatory to the Department of Scientific and Industrial Research in December, 1945, a determined effort has been made to reduce the arrears of work and at the same time rehabilitate the Observatory. Modern buildings suitable for tropical conditions, modern equipment, adequate scientific staff trained in Observatory work, and congenial living-conditions for European members of the staff have been made the objectives in the plans for its scientific rehabilitation.

BUILDINGS

Plans for a complete new office block to accommodate both the geophysical staff and the Meteorological Section, Air Department, were drawn up and submitted for approval to the Department of Scientific and Industrial Research and the Director, Meteorological Services. The main office building is in a state of disrepair. Repairs have been carried out on other Observatory buildings.

INSTRUMENTAL

During 1946 a member of the Dominion Physical Laboratory installed the horizontal seismograph recording-clock which has been redesigned, and carried out other instrumental repairs.

Time Service.—At the beginning of the report year the electrical circuit of the synchronome block was altered to overcome erratic behaviour of the impulse mechanism, which had been troublesome for over twelve months. A new wireless receiver was installed for the reception of time signals. Early in 1947 the Davison chronometer, which had not been giving a satisfactory performance, was sent to New Zealand for repairs.

Terrestrial Magnetism.—The Gauss house was completely rewired and a new lighting circuit installed to eliminate loss of record due to power failures. A new circuit to be used for calibrating the variometers was designed in conjunction with the Dominion Physical Laboratory and is being constructed there. The torsion weight of the magnetometer was sent to the Carnegie Institution, of Washington, to have the scale re-etched and treated for tropical use.

Seismology.—Because the seismological equipment is unable to meet modern requirements for research in this branch of geophysics, consideration has been given to the installation of up-to-date instruments. Approval has been obtained for the construction of a Wood Anderson seismograph by the Dominion Physical Laboratory. Owing to the unsuitability of the lithographic formation at Mulinu'u for sensitive seismographs, a new location which would be satisfactory was sought. The use of a site which will enable the instrument piers to be set on rock was granted by the Administration of Western Samoa.

Tide Gauge.—This instrument has given an indifferent performance and required frequent attention and adjustments to maintain satisfactory recording. The float well has been descaled. The recording-clock is being replaced by the United States Coast and Geodetic Survey. The annual check of the level of the staff with reference to local bench marks was carried out by the Lands and Survey Department.