

1876.
NEW ZEALAND.

TELEGRAPHIC DIFFERENCES OF LONGITUDE,
(REPORTS ON, BETWEEN VARIOUS PLACES IN NEW ZEALAND.)

Presented to both Houses of the General Assembly by Command of His Excellency.

No. 1.

The AGENT-GENERAL to the Hon. the COLONIAL SECRETARY.

7, Westminster Chambers, Victoria Street, Westminster, S.W.,

21st September, 1875.

SIR,—

I have the honor to forward, at the request of Major Palmer, R.E., a letter addressed to you enclosing for the information of the Government a memorandum on the telegraphic differences of longitude between various points in the colony. I now transmit the original of these papers; but I have had a careful copy made of them, which has been revised by Major Palmer, and which I will send as duplicate by the outgoing Southampton mail.

I have, &c.,

I. E. FEATHERSTON,

Agent-General.

The Hon. the Colonial Secretary, Wellington.

Enclosure in No. 1.

Major PALMER, R.E., to the Hon. the COLONIAL SECRETARY.

Southborough, Tunbridge Wells, 31st August, 1875.

SIR,—

I have the honor to forward, for the information of the New Zealand Government, a memorandum on the telegraphic differences of longitude between various points in the colony, determined under my superintendence in the months of November, December, and January last, in accordance with your request. Also, a note on absolute longitude and on the latitude of Burnham Observatory.

I am unable to include in this memorandum the results for difference of longitude between Burnham and Rockside (Dunedin), because Mr. McKerrow, the Observer at that station, has not yet sent me the details of his observations, though I have more than once requested him to do so. But I am prepared to reduce his work as soon as I receive it, and to send you a supplementary memorandum on the subject.

I have, &c.,

H. S. PALMER,

Major R.E.

The Hon. the Colonial Secretary, Wellington.

MEMORANDUM

On Determinations, by Galvanic Signals, of Differences of Longitude between Burnham Observatory and other Stations in New Zealand, 1874-75. Also, a Note on Absolute Longitude and Latitude.

1. The stations included in the operations about to be described were,—

The transit-pier at the transit of Venus Observatory, Burnham

" " " " " " Queenstown.

" " " " " " Government Observatory, Wellington.

" " " " " " Mr. Heale's temporary Observatory, Auckland.

I will designate these four points by the letters B, Q, W, A, respectively.

2. The Observers who took part in the work were Lieutenants Crawford, R.N., and Darwin, R.E.; Mr. T. Heale, Inspector of Surveys; Major Palmer, R.E.; and Professor C. H. F. Peters, Chief of the American Transit of Venus party at Queenstown. These observers will severally be distinguished by the letters C, D, H, P, PE.

3. The method pursued was as follows:—Reciprocal galvanic signals were exchanged between two stations (Burnham being one of them) whose difference of longitude was required, on nights when
1—H. 6.