

from that service on the 3rd April. Our office work was resumed until the 6th ultimo, when, on the request of the Commodore, I was directed by the Government to join H.M.S. "Blanche," for the purpose of examining certain parts of the coast in the Province of Auckland, and to have certain portions pointed out which the Commodore considered dangerously inaccurate and necessary to be resurveyed. This service has been performed with the assistance of Her Majesty's ships and boats; and I have the honor to report that the inaccuracies referred to are of serious importance, and that a resurvey of portions of the Hauraki Gulf, of D'Haussez's Group, and of the islands and shoals in the Bay of Plenty, is much required.

Having thus reported the outline of our duties during the year, I would draw your attention to the exact position of the work in progress on the West Coast, independent of the disjunct surveys, &c., on other portions of the coast line of the Colony: in the first place remarking upon the cordial co-operation and valuable assistance that we have received from Malcolm Fraser, Esq., the Chief Surveyor of the County of Westland, and the officers of his department, whose zeal and energy in carrying out the trigonometrical survey, for the purpose of checking our astronomical and coast line work, have assisted very materially in reducing our expenditure, and greatly facilitated our operations, enabling us to complete a far larger amount of work than we could reasonably have expected to overtake; and I would also report, that when we were associated in the work at Hokitika, notwithstanding these officers had their own duties during the day, they were always ready and did assist at all hours of the night in taking time when we were engaged upon lunar and stellar observations.

The geographical work on the West Coast, with the exception of an intermediate station at Perpendicular Point, is now completed from Jackson's Head to Cape Foulwind, a distance of 180 nautical miles; five true bases have also been obtained while the work was in progress, extending over a distance of 130 nautical miles; and I have to report that although the observations of moon culminating stars have been few, on account of the heavy gales and the bad weather experienced, yet the means of the longitudes obtained from them agree in all cases within a few seconds of arc with the longitudes obtained from the difference of latitude and true bearing: thus the two methods have checked each other in a very satisfactory manner.

The results, as I have stated previously, show considerable errors in the Admiralty charts: and in accordance with your instructions a reduced plan of the coast line, as shown by them and as recently surveyed, is herewith appended, in order that the Government may see at a glance the errors to which I allude.

The sea traverse for soundings was completed last year from Cascade Point to Otorokua Point, and we are now prepared to proceed with the same to the Grey River, should the Government so desire, before proceeding further with the geographical work. I would respectfully urge upon the consideration of the Government the propriety of my being allowed a small schooner in lieu of the "St. Kilda," on account of the great expense in working the latter vessel for surveying purposes: in illustration of which I would refer the Government to the printed Return of Expenditure for the Marine Survey, published in the Report of the Marine Department for the years 1867-8, from which it will be observed that her maintenance and coal consumption amounted together to £3,147, out of a total expenditure of £4,347.

I herewith append the usual return of survey.

James M. Balfour, C.E., Colonial Marine Engineer,
Wellington.

I have, &c.,
G. A. Woods,
Colonial Marine Surveyor.

RETURN OF SURVEY, COAST OF NEW ZEALAND, year ending 30th June, 1869.

Surveyor—GEORGE AUSTIN WOODS.

Assistant Surveyor—CHARLES G. KNIGHT.

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| 1. Nature and extent of coast line surveyed, whether open-sea coasts, friths, rivers, or harbours, | } 180 miles of coast line on $\frac{1}{2}$ -inch scale. |
| 2. Was the triangulation executed by the surveyors? | |
| 3. Has a series of tidal observations been made? | Yes. |
| 4. Number of officers employed in the survey. | Yes, when engaged on disjunct surveys. |
| 5. State nature and amount of work by each officer engaged? | Two. |
| 6. Date of beginning and ending of out-door work. | Equal share in work generally. |
| 7. Number of days prevented working abroad by rain, wind, and other unforeseen circumstances. | Commenced 26th July; ended 31st December. |
| 8. Nature of vessel and number of crew. | Fifty. |
| 9. Opinion as to the scale on which the surveys should be published, having reference to the general wants of navigation. | Six-oared whaleboat; six men, one boy. |
| 10. When will fair copy of work be lodged with the Government? | Ports, &c., 3 inches to the mile; coasts, $\frac{1}{2}$ inch to the mile. |
| 11. Are the sailing directions in course of preparation, and when will they be ready? | Fair copy of disjunct surveys already forwarded to the Hydrographer for the Admiralty; coast general survey in course of progress. |
| | Yes; on completion of survey. |

Appendix B.

Marine Department, New Zealand, 1869.

INSTRUCTIONS to the LICENSED ADJUSTERS of the COMPASSES of STEAM VESSELS.

1. By "The Steam Navigation Act, 1866," it is provided that "in the case of sea-going vessels