

**Station 164D** (Sounding 278), Sydney to New Zealand (see Charts 26 and 27, **STATION 164D.** and Diagram 11).

June 14, 1874 ; lat.  $34^{\circ} 3' S.$ , long.  $152^{\circ} 20' E.$

Temperature of air at noon,  $57^{\circ} \cdot 8$  ; mean for the day,  $57^{\circ} \cdot 9$ .

Temperature of water at surface,  $67^{\circ} \cdot 5$ .

Depth, 2100 fathoms.

At 8 A.M. got up steam. At 9.15 A.M. shortened and furled sails, and proceeded under steam to sound. Sounded in 2100 fathoms. At 11.20 A.M. sounding line carried away. Heavy sea and strong wind from the S.W. At 2 P.M. life-buoy washed away from starboard quarter in a heavy roll. Gale continued throughout the afternoon. Lightning at night and phosphorescent sea.

Distance at noon from Cape Farewell, 1062 miles. Made good 36 miles. Amount of current 24 miles, direction S.

**Station 164E** (Sounding 279), Sydney to New Zealand (see Chart 27 and **STATION 164E.** Diagram 11).

June 16, 1874 ; lat.  $34^{\circ} 27' S.$ , long.  $154^{\circ} 57' E.$

Temperature of air at noon,  $59^{\circ} \cdot 8$  ; mean for the day,  $58^{\circ} \cdot 8$ .

Temperature of water :—

Surface, . . . . .	64·0	600 fathoms, . . . . .	38·9
20 fathoms, . . . . .	63·2	700 " . . . . .	37·8
40 " . . . . .	63·0	800 " . . . . .	37·2
60 " . . . . .	59·5	900 " . . . . .	36·9
80 " . . . . .	56·0	1000 " . . . . .	36·6
100 " . . . . .	52·6	1100 " . . . . .	36·3
200 " . . . . .	48·2	1200 " . . . . .	36·0
300 " . . . . .	45·1	1300 " . . . . .	35·7
400 " . . . . .	42·8	1400 " . . . . .	35·4
500 " . . . . .	40·4	1500 " . . . . .	35·1

Density at  $60^{\circ} F.$  :—

Surface, . . . . .	1·02644	200 fathoms, . . . . .	1·02590
50 fathoms, . . . . .	1·02636	300 " . . . . .	1·02576
100 " . . . . .	1·02627		

Depth, 2550 fathoms.