

Point Moleque N.  $87^{\circ}$  W. (true), and Formosa S.  $36^{\circ}$  W. (true), but even at this distance these objects were not readily distinguished (see Sheet 15).

On the 7th the ship was off the Rio Parahiba, where the land is better marked, the town of Parahiba standing on the first elevated land south of the river; some cocoanut trees on its northern side, which serve to point it out when the sun is at its back, and the lighthouse on the reef at the entrance of the river, are excellent marks; but the convent of Senhora di Guia cannot be seen unless the sun be shining on it. The Barreta do Arutu is well marked, and readily distinguished from the northward. At 4 P.M. on the 7th bottom was obtained in 16 fathoms, with Parahiba lighthouse S.  $72^{\circ}$  W. (true), Parahiba church S.  $43^{\circ}$  W. (true), and Barra Velha Point N.  $53^{\circ}$  W. (true), and depths of from 16 to 13 fathoms were obtained until 5.45 P.M., when Barreta do Arutu bore S.  $23\frac{1}{2}^{\circ}$  W. (true), Parahiba church S.  $64^{\circ}$  W. (true), and Parahiba lighthouse N.  $51^{\circ}$  W. (true), after which a course was steered to the southeastward, and the soundings deepened.

On the 8th September two deep soundings were obtained at distances of 45 miles and 34 miles from the shore at Stations 118 and 119. The ship was then steered towards the land, and Olinda Point sighted at 4 P.M. at a distance of 22 miles. At 6 P.M., when 15 miles from the shore, points could be distinguished with sufficient accuracy to fix the position of the ship by bearings. At this time Olinda summit bore W.S.W. (true), the fort on the S.E. point of Itamaraca Island W.N.W. (true), and a village (probably Catuame) N.W. (true). The ship was then in 22 fathoms, with a sandy bottom, and a course was steered S. (true) 12 miles until 9 P.M., when the depth was again 22 fathoms. From this place the course was S.  $14^{\circ}$  E. (true) until 4 A.M. on the 9th September, when, by observation, the ship was in lat.  $8^{\circ} 37'$  S. and long.  $34^{\circ} 28'$  W., the patent log showing 36 miles, since 9 P.M. At 10 P.M., 11 P.M., and midnight, soundings were obtained in 26, 26, and 40 fathoms. After sounding and dredging in lat.  $8^{\circ} 37'$  S. long.  $34^{\circ} 28'$  W. in 675 fathoms (Station 120) the ship proceeded a little further inshore, and sounded in 500 fathoms (at Station 121); from this position Cape San Agostinho could just be distinguished, distant 27 miles.

On the 10th September, at Stations 122, 122A, 122B, and 122C, the land was visible at a distance of about 23 miles, but the only objects that could be distinguished were the white cliffs of Barra Grande, and they disappeared in the afternoon when the sun no longer shone on them. The ground in this locality was foul, for all the nets sent to the bottom were torn. On the 11th September the land was not seen even from the masthead from Stations 123 and 124 at distances of 40 and 33 miles. On the 12th September, at Stations 125, 126, and 126A, the land about the Rio San Francisco was visible from the masthead at a distance of 17 miles, but not from the deck. On the 13th the land was seen at a distance of 12 miles from the deck between the Rio Real and Conde, appearing as a series of low hills marked here and there with white patches, which were very conspicuous, and would be very useful objects for fixing the position of passing