

SURVEYS ON THE WEST COAST OF SIAM DURING THE YEARS 1934-1935

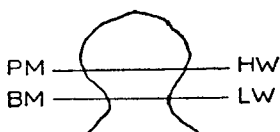
(Lecture delivered by Commander R.M. SOUTHERN, R.N., before the IVth International Hydrographic Conference, Monaco, on 21st April 1937).

In 1934 we started a survey on the west coast of Siam. I did not know much about it when I went out there, in fact, I hardly knew there was a *west* coast to Siam, but there is such a coast between the top end of Malaya and the bottom end of Burma, about 200 miles of it. The survey was quite an ambitious project as it involved about 8 to 9,000 square miles of sounding, and the coast line is so involved that, although only about 200 miles long in a direct line, it is in reality at least a thousand miles in length if all its indentations are followed.

The central part of this narrow neck of land in Siam is fairly normal in appearance — there is a range of hills rising to five or six thousand feet, and near the west coast there are extensive areas of low-lying ground intersected by waterways. I believe you can go nearly 100 miles along the coast in a junk without leaving these inland waterways. Off the coast are a large number of islands and most of them are very steep and rugged. The smaller ones in particular, are most precipitous. Admiral EDGELL has



drawn from memory the shape of some of these islands and they are not in the least exaggerated. They presented us with a considerable problem, for many of them could not be ascended at all, and we were also faced with the fact that you might have an island like that shown in accompanying figure :



Now, how are we going to represent that on the chart? The low-water line would logically have to be shown inside the high-water line, and that would have been the case if we had been working on large scales. Fortunately, the scale was 1:50,000, and on that scale we could not quite differentiate between the high and the low-water lines in these exceptional cases.

The triangulation was based on the excellent geodetic survey of Malaya from which I used two primary stations and one secondary point to start with, and I then extended my work from that, hoping to connect in due

course with the main triangulation of Siam. I did not have time to do that while I was there. The actual work presented some difficulty. We arrived late in the season — in February — and by then the weather is often overcast and clouds are low on the hill summits. Some of the observed rays were long shots, 26 miles in one case, and there were several lines over 20 miles in the triangulation. These are rather long for ordinary topographic work and there was much difficulty owing to the cloudy weather. I used heliostats but unless the sun comes out they are of no help.

Some observations had to be made by night and as the hills were precipitous the officers sent up had to stay there overnight since it was too dangerous to come down in the dark.

Before the War H.M.S. *Sealark*, an Admiralty surveying ship was working on that coast and as she had done a considerable area I wanted to link my triangulation to hers. I only found one station, marked as it happened by Admiral EDGELL himself, and it is a tribute to the excellence of his work that his mark was still in existence and was found nearly thirty years later. It was on a steep island, 600 feet high and the secondary growth there, a growth that comes after cutting the jungle the first time and is harder to deal with than the primary growth, presented an additional problem. I sent an officer up to the summit of this island and he hunted for about two hours and was about to give up when he found an empty Sandeman port bottle so that he felt sure he must be near the place and in fact he was !

The sounding in this area did not present any exceptional features. Shallow water, 30 fathoms and less, was found far from the coast, We had with us only sonic sounding gear of the electric hammer type fitted with telephones for listening in. Where the ground was soft no results were obtained. With a more modern supersonic type no difficulty would have been experienced. However, owing to this trouble several hundred square miles of sounding had to be carried out with mechanical gear until we came to a part of the ocean where the bed seemed harder.

The topography had to be done entirely by sketches from boats. Instrumental contouring in such places is out of the question. The whole place is covered with jungle and conditions were not too pleasant. The red ant is found in large numbers, they live in the trees and bushes and bite hard, and whenever you brush past a bush, some fifty or so fall on you. Leeches appear in wet weather and ticks are found almost everywhere so that on return to the ship baths with disinfectants were necessary. Nevertheless everybody's health was good on that particular survey. Of course, we had minor accidents, for instance, when cutting down jungle, but such incidents are almost inevitable with men who are not really experienced in that class of work. It is more than likely that they will stand on the wrong side of the tree and, when the latter falls, it falls on them !

As mentioned, the coastline was very involved, and a large part of the work was in connection with fixing the coast-line. In one area I landed a small party and left them to themselves; I learnt that while they had covered

about 15 miles of coast in a direct line, they had indirectly done more than 100 miles. The work in that part is now being continued by H.M.S. *Stork*, a new surveying vessel which was commissioned towards the end of last year, and as their appliances are more up-to-date than ours were, they will probably make rapid progress. The Siamese surveyors are also doing a considerable quantity of work on that coast and our original programme, which included practically the whole water area, will probably be considerably modified and reduced, and that is all to the good because the present charts are very inadequate indeed. On my second visit to the coast I had to go for a few days to a place further North, and this was so different to its charted shape that it was difficult even to find it.

