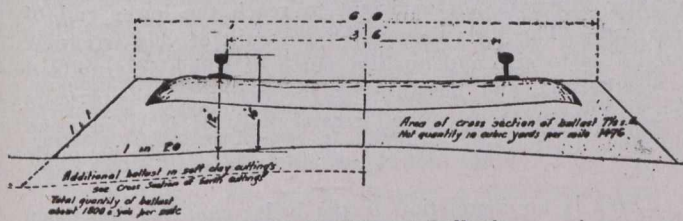


along the track as fast as it was linked-in by the plate-laying gang. In this way the distance the rails had to be carried by the boys was kept as short as possible. The sleepers were usually thrown off, to be picked up and carried well ahead, when they were carefully laid on the formation square to the centre line and the correct distance apart. From ten to fourteen boys take a rail from the loaded truck, hold it above their heads, and carry it direct to its place, laying it on the sleepers to the satisfaction of the plate-layers. The plate-layers with their bars cant the rail, getting it under the clips of the sleepers. Considerable practice is necessary to do this quickly, and only well-trained gangs are of any use at the work. The bank at each side of the material train is reserved for the rail-carriers—the sleeper-carriers must go on the outside, either at the bottom of the bank or as best they can. As soon as a pair of rails are in place and fished up by the plate-layers the material train moves forward. The keying-up is usually left over for a more convenient time.

When three or four miles of linking-in had been done that work was stopped, and the ballast, which had been previously got ready at the ballast-pits, where separate gangs were engaged, was loaded and distributed over the length, and the first lift party, usually gangs of 100 to 200 boys, put in the ballast with a first lift from 8 inches to 10 inches. The remainder of the ballast was put in later in three or more lifts of from 3 inches to 4 inches each. A permanent gang was then left to maintain the line—the number varying from 4 to 6 to the mile; one native plate-layer with second man being in charge of a three-mile section, with a European plate-layer in charge of six or more gangs.

From the terminus the main line runs level for half a mile, then through a soft rock cutting, with a gradient of 1 in 100 falling 11 feet, to where the harbor line crosses and from that point the formation is level up to 2 miles 2 chains over open country and flats of grass land. These flats in places are marshy, the average height of the bank over them is about 3 feet. The flats continue for another mile at a slightly higher level, when the line is merely formation or level with the surface of the ground.



Standard Section of Ballast.

From 3 miles 0 chains the level rises in easy gradients up to 7 miles 63 chains. The country then gets more uneven, and is more or less covered with bush, but is still fairly open. At this point, which is the site of the first intermediate station—Dome—the level is about 79 feet above the flats. The line then rises with a gradient of 1 in 80 up to 8 miles 42 chains, then with an easy gradient down for 30 chains. It again rises to 9 miles 48 chains, when there is a depression, which the line crosses on a bank 7 feet high, with a gradient of 1 in 80—the line at this point being 55 feet above Dome station, or a total of 134 feet above the flats. It was between this point, 9 miles 48 chains, and the harbor line crossing that the most trouble with floods was afterwards experienced. From that point there is a stiff pull—1 in 80—up to 11 miles 14 chains to the top of a range of hills which runs parallel to the coast line. These hills must be crossed in getting from the coast to the interior. At the top there is a deep cutting mostly rock. This cutting is at

a level of 216 feet above Accra terminus, and is the highest point on the line.

There is a long gradient of 1 in 80 down again to Ensaki Swamp at 13 miles 0 chains, then a rise to 15 miles, the site of the second station—Amasama—which is at the top of a second lower range of hills. After passing 11 miles the cooler sea breezes are lost, and the heat is much more intense—Ensaki being particularly hot and close in the middle of the day.

From Amasama the country is of a more undulating nature—thick and close bush continues in N'Sawam, and immediately after N'Sawam the forest is reached.

At the end of December the rails were laid for the first 27 miles, and in May practically the whole of this length was ballasted and packed, and was in good running order as far as N'Sawam.

The wet season of 1910, which started on June 6th, was, however, the most severe remembered, no less than 18 inches of rain fell between June 6th and 18th. This quantity very frequently represents the total rain-fall at Accra for a year. The whole of the Achimotah valley, through which the line runs, was one great running river. The banks were carried away at 5 miles, 5 miles 27 chains, and 5 miles 47 chains, and in many other places they were totally submerged.

In the wet season of the year 1908 this valley was quite dry. In 1909 very little water ran through it. These great floods were quite unexpected, and did tremendous damage to the line, making it quite impossible to get any material up, so that all progress was stopped for a time. As soon as it was possible every effort was made to repair the damage. Where the banks were carried away timber sleepers were built up in the form of cribs to support the lines, and openings were left. The cribs were so arranged that the concrete foundations, abutments, and wing walls for permanent openings could be put in without interruption to the traffic. Rail girders, consisting each of nine rails packed together, were used to carry the line over the cribs.

Early in August, 1910, through communication was again established, and on the 27th of August the line was publicly declared open for traffic as far as N'Sawam.

The original contract provided for a line to Mangoosi, and the earthworks were completed and the rails laid to that point, but the ballasting was stopped at a point one and a quarter miles short of Mangoosi, as it was then practically decided that an extension would be made to the town of Komfrodua, about fourteen miles further on: under those altered conditions the original site for the Mangoosi station was not suitable, and a new site on the opposite side of the hill upon which the town stands was selected.

Pending a final decision as to the extension, this line remains unfinished for the last mile and a quarter from the point where the route to the proposed new station site would commence.

In the meantime, the end of the line, as far as regular passenger and goods traffic is concerned, is at present at Pakro, which is thirty-four miles from Accra, or six miles beyond N'Sawam, and the contractor, under agreement with the Gold Coast government, is working the line over this length.

It is difficult, if not practically impossible, in the first survey, in tropical countries to reasonably estimate the effect of heavy rain-falls, especially where, as at Accra, the natives can give no reliable information of any kind on the point, and no previous records are to be found, and observation of old watercourses and flood-water marks are also impossible, owing to the luxuriance of the tropical growth which conceals all evidence of previous floods.

In consequence of these June floods it was found necessary to increase the openings under the line either by addi-