

Oil Tanker "CHARLES PRATT"

In July last, a report was received from the Newport News Surveyor on this vessel, which was built in 1916 by the Newport News Shipbuilding & Dry Dock Company for the carriage of petroleum in bulk, and is owned by the Standard Shipping Company. From this report it was noted that 7 strakes of the bottom shell plating had been cracked through, and that it had been decided to renew practically the whole of the shell plating in way of the deep tanks and main cargo tanks.

A casualty of so fundamental a character is an exceedingly rare occurrence, and therefore it was thought well to ask the Surveyors certain questions in regard to loading, deterioration of structure, etc., which were duly answered. The Surveyors expressed the opinion that the fractures were due to widespread corrosion, and at the same time they forwarded a report from a naval architect, the subject of which was "The physical characteristics of plates removed from the S.S. "CHARLES PRATT" ", which were accompanied by micrographs of the structure taken by a metallurgist, Mr. Angel.

These micrographs shewed an exceedingly large structure, and the documents, together with two samples of plates, one taken from the "CHARLES PRATT" and the other from the "F.Q. BARSTOW"; a sister vessel, were sent to Mr. Ripley, from whom a report has now been received.

Mr. Ripley's investigation shews clearly that, judged by these samples, the material fitted in the "CHARLES PRATT" shews a very large grain size, and one not at all typical of mild steel plates; and in the case of the "F.Q. BARSTOW" the abnormal features were still more evident. Mr. Ripley

W373-0161 1/2

traverses the conclusions arrived at by Mr.Norton, and states that the structures exhibited are very unsatisfactory and cannot be regarded as typical of ship material manufactured either in America or elsewhere. In his conclusions, Mr.Ripley expresses the opinion that these failures may properly be attributed to a combination of circumstances, and while it may well be that corrosion played a major part, the question of the quality of the material cannot be ignored. He describes the sample taken from the "F.Q.BARSTOW" as being from every point of view hopelessly unsuitable," and generally a material likely to be unduly fragile under certain types of stress, accompanied probably by a less than normal resistance to corrosion.

The steel for the three sister vessels "CHARLES PRATT", "F.Q.BARSTOW", & "H.H.ROGERS" was made at two Works, the Carnegie Steel Co., and Luken's Iron & Steel Co., the former in the Pittsburgh district and the latter in the Philadelphia area, and it is not known to what extent the material was supplied by these two Firms. The steel, however, was made in the abnormal conditions obtaining during 1916, and, although the results of the investigation are such as should have been evident when the material was physically tested by the Society's Surveyors, it would seem to be now impracticable to investigate the circumstances of at that time.

It is submitted for consideration, however, whether Mr.Ripley's report on the case, with its enclosures, should not be sent to Mr.French for his information, and also for any convenient use which he may make of the investigation which has been conducted by Mr.Ripley. The report at least shows the technical resources which are at the disposal of the Committee for an investigation of this kind.

W373 - 0161 2/2

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