

Lloyd's Register of Shipping.



Port WELLINGTON

23rd JUNE, 1931

This is to Certify that

DAVID KER BLAIR

the undersigned Surveyor to this Society did at the request of

MASTER, JOHN MACDONALD, held a DAMAGE SURVEY on the S.S. "ROSECRIC" 4738 TONS & No. 82857 IN REGISTER BOOK OF THE SOCIETY on 19th JUNE and subsequent dates, the vessel then lying afloat at Clyde Quay, Wellington, in order to examine and report upon Damage to the Crankshaft of the Main Engine sustained during the contemplated voyage from Newcastle N.S.W. to Corral, Chili, and in consequence of which the vessel was put into this port for repairs. For further particulars see extract from Ship's and Chief Engineer's Logs attached hereto.

CIRCUMSTANCES:- I interviewed the Chief Engineer who states that the vessel developed a heavy knock at sea on 14th June, 1931, and in consequence thereof it was decided to stop the engine at 10.19 A.M. of that day and endeavour to locate the cause of it. The cover of the Intermediate Pressure Cylinder was lifted but nothing was found in this cylinder, or its moving parts, so it was again closed up. The trouble was ultimately found in the Forward Coupling of the Low Pressure Crankshaft where the coupling bolts were found to be slack, the first bolt struck with the testing hammer was found to be broken and one of the spare tunnel shaft coupling bolts was fitted, there being no spare bolts onboard of the size for this coupling; the remainder of the bolts in the coupling were hardened up, and the vessel proceeded on her voyage at reduced speed at 6.30 P.M. on the 14th day and, later on as the weather was fine, she was opened up to full speed. On the 15th June the knock again started and it was decided to stop at 11.00 A.M. and tighten up the bolts in this coupling; this was done and the vessel proceeded on her voyage at 11.50 A.M. The weather started to come up rough on 16th June and by the evening had developed into a strong gale with thick heavy rain squally, the vessel shipping heavy water fore and aft. On 17th June the gale showed no signs of abating and the Engines were racing heavily, the speed was further reduced, and as it was now clear the slack Coupling could not be satisfactorily repaired, the Master was consulted and it was decided to wireless Wellington at 8.00 P.M. stating the damage and enquiring if repairs could be effected there. As a satisfactory reply was received the vessel was headed for this port. On the 18th June the gale moderated somewhat but there was still a heavy swell, the Engines were still racing and the slack Coupling started knocking again so a stop was made at 4.12 P.M. and the bolts in it tightened up, the vessel proceeded on her voyage at 5.20 P.M. On the 19th June a gale again freshened accompanied with thick rain, the vessel shipping heavy spray and Engines racing, necessitating the reduction of speed, and

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this continued until the vessel's arrival in Wellington where she berthed at Clyde Quay Wharf with the assistance of the Tug "Toia".

EXAMINATION:- I boarded the vessel immediately after berthing and examined the crankshaft of the Main Engine (Triple Expansion) and found that she was fitted with a three (3) throw crankshaft each throw being a separate unit, the three being coupled together with two (2) couplings each fastened with six (6) tapered headless bolts. The Coupling between the Low Pressure and Intermediate Pressure Cranks was slack and all the bolts were broken with exception of one. The crankshaft was also slightly out of alignment being down a sixteenth of an inch ($1/16"$) full on No. 1 Bearing (the forward bearing) and one thirty second of an inch ($1/32"$) on No. 2 Bearing the remaining four (4) bearings were approximately correct. The bolts in aftermost coupling to which the turning gear is attached) were removed examined and found in good condition. The bolts in the slack Coupling were badly corroded and pitted and these actions have apparently caused their fits to slacken in the forward half of the coupling (the nut end) but they remain fairly good in the after half. Some of the bolts had old deep flaws in them and the fractured surfaces resembled tool steel being very close and even in the grain. The bedding faces of the slack coupling were very badly pitted apparently caused by the sea water used in the Low Pressure Eccentrics finding its way through the bolt holes or between the faces themselves.

RECOMMENDATION:- I recommended the re-aligning of the main crankshaft the fairing of the pitted bedding faces of the slack Coupling by filing them up in place, the reamering out of coupling bolt holes to largest size and the fitting of a complete set of new bolts (6) and the providing of a new spare set (6) of fitted bolts. On completion of repair Main Engine to be given a test run of a quarter of an hour at half speed and a quarter of an hour at full speed in my presence, either alongside wharf or in Wellington Harbour, before proceeding on her contemplated voyage to Corral, Chili.

David N. Blair

SURVEYOR TO LLOYD'S REGISTER
WELLINGTON - N.Z.

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