

Report of Survey for Repairs, &c., of Engines and Boilers.

(Received at London Office 29 OCT 1939)

Date of writing Report 8th Sept 1939 When handed in at Local Office 8th September 1939 Port of FREMANTLE

No. in Reg. Book 26213 Survey held at Fremantle Date, First Survey 4th Sept Last Survey 7th Sept 1939
(No. of Visits FOUR)

Tonnage { Gross 5267 Net 3192 Vessel built at Newcastle By whom Swain, Hunter & Wigham Richardson Ltd Year. Month. When 1936-2

Nominal Horse Power 400 Engines made at Wallsend By whom Paxson Marine Steam Lushine Co Ltd (Donkey) 1936 When 1936

No. of Main Boilers 2 Boilers, when made (Main) 1936 Owners' Address (if not already recorded in Appendix to Register Book) Port, Newcastle Voyage Overseas

No. of Donkey Boilers in Main Boilers 285 lbs Managers Stott Mann & Fleming Ltd If Surveyed Afloat or in Dry Dock Alongside Nth Wharf Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

Last Report No. 97290 Port Nuc

Particulars of Examination and Repairs (if any) Bochy Repairs

(Periodical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.)

CHARACTER, etc. for Special Survey Date of last Survey and of Periodical Surveys.	Year assigned or required.	Machinery and Boiler Surveys (including date of N.B., if any).
<u>+100 A1 with freeboard 3-39</u>		<u>+LMC 2-36</u>
		<u>Cc 9.38</u>
		<u>Cargo battens not fitted</u>

In damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined

Was a damage report made by anyone else? If so, by whom?

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time?

Did the Surveyor personally go inside each Donkey Boiler separately and make a thorough examination at this time?

If this was not done, state for what reasons?

And what parts of the Boilers could not be thus thoroughly examined?

Also what special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler?

State latest date of internal examination of each boiler. Present condition of funnel(s)

Did the Surveyor examine the Safety Valves of the Main Boiler? To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine the Safety Valves of Donkey Boiler? To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? and of the Donkey Boilers?

Did the Surveyor examine the drain plugs of the Main Boilers? and of the Donkey Boilers?

Did the Surveyor examine all the mountings of the Main Boilers? and of the Donkey Boilers?

Has screw shaft now been drawn and examined? Is it fitted with continuous liner? Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated?

Has shaft now been changed? If so, state reasons

Has the shaft now fitted been previously used? Has it a continuous liner? Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated?

State date of examination of Screw Shaft State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft

Engine parts, when referred to by numbers, should be counted from forward. Is electric light and/or power fitted?

If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses?

Was the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms?

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done

This Survey was done for the purpose of noting the reasons for unusual vibration and grinding noise in the vicinity of the secondary pinion and shaft. It is stated that this vibration and grinding noise appeared to develop prior to the vessel arriving at Sydney on the present voyage. It is also stated that the Main Shaft had a slight fore and aft travel when in motion as felt and noticed by the poker gauge.

For further particulars see Log Books. Upon examination with the gear casing and the secondary shaft after bearing cover and main shaft after bearing cover removed found:-

(1) thick deposit in Oil Pump. This deposit was of a plastic nature and contained considerable quantities of metallic particles similar in every respect to a sample of deposit

General Observations, Opinion, and Recommendation:— *SEE OVER.*

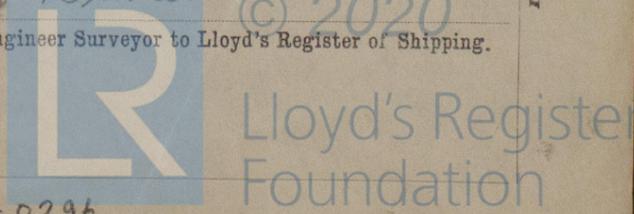
(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, B.S. 9,11, B.&M.S. 9,11, & L.M.C. 9,11, or L.M.C. 140 lb., F.D., &c.)

Recommend in the case of this vessel's Machinery that the record of classification be retained in the Register Book.

Survey Fee (per Section 20).....	£	:	:	Fees applied for <u>8-9-1939</u> Received by me, _____ 19____
Special Damage or Repair Fee (if any) (per Section 21a).....	£	:	8:8:-	
Travelling expenses (if chargeable).....	£	:	16:-	

Wm. J. Davies
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *As now*
Assigned *1*



Is a Certificate required? If so, to be sent to

from the previous batch of oil which had been removed approximately three weeks ago and a new batch of oil substituted.

- (2) the ahead side of the secondary pinion teeth were seen to be worn very bright and a sharp ragged edge produced along the top of each tooth.
- (3) the ahead side of the main wheel teeth were seen to be pitted where small flakes of metal had been removed by "chatter" and these indents or pits corresponded in size to the metallic particles found in thick oil deposit.
- (4) the extreme after end of the secondary pinion shaft appeared to be bearing very hard on the bottom of the after ring bearing of the thrust and when the lower half was removed it was found that the top readings of the bridge gauge over the after journal of the secondary pinion shaft had increased from $.036"$ to $.038"$
- (5) when the after faces of the secondary pinion and main wheel were exactly in line and both the secondary pinion shaft and main shaft hard aft against their respective astern thrust pads, the measured clearances between the forward (ahead) thrust pads and thrust collar were found to be as follows:-
Secondary pinion shaft $.045"$ Main Wheel shaft $.055"$ and the poker gauge readings in that position were $.062$ and $.056$ respectively.
Recommended that:-

- (1) all oil be removed from the system and main gear case pump and all pockets cleaned of deposit and metallic particles and a new charge of clean oil admitted.
- (2) the ahead sides at the tops of the secondary pinion teeth be "loned" to remove all ragged edges and the teeth also dressed.
- (3) the main wheel be cleaned of all metallic dust and/or particles.
- (4) the after ring bearing (aft of the thrust collar) be eased on the bottom half to accommodate itself to the $.002$ (two thousandths) difference in the bridge gauge readings of the secondary pinion shaft after bearing.
- (5) a new forward liner $.010"$ (ten thousandths) thicker than the present liner be fitted to the main wheel thrust block to ensure the same fore and aft clearance namely $.045"$ in both the secondary pinion shaft and main ~~shaft~~ thrusts.

The whole of the recommended work has now been seen satisfactorily completed and an Interim Certificate issued.

Additional A further recommendation was made to the effect that the Propeller and vicinity be examined by a competent Marine Diver in order to ensure that no faults existed there which might cause the slight fore and aft drift of the main shaft which was referred to at the commencement of this Report. This examination has been made and the attached report from the Diver shows the Propeller and vicinity to be in good condition.

Wm J. Davies.