

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

(Received at London Office)

SEP - 2 1940

Date of writing Report 21/8/40 When handed in at Local Office 22/8/40 Port of MIDDLESBROUGH

No. in Reg. Book 67500 Survey held at Middlesbrough & Spaunton, First Survey 18.6.40 Last Survey 15/8/1940  
 on the Machinery of the Wood, Iron or Steel S/S "EMPIRE ENDURANCE EX ALSTER" (No. of plates 28)

Tonnage } Gross 8570 Vessel built at Hamburg By whom Deutsche Schiff-Masch. Werk Vulcan When 1928  
 Net 5353 Engines made at do. By whom Deutsche Schiff-Masch. Werk Vulcan When 1928

Nominal Horse Power } Boilers, when made (Main) 1928 (Donkey) ✓

No. of Main Boilers 5 Owners The Ministry of Shipping Owners' Address ✓  
 No. of Donkey Boilers ✓ Managers The Booth Steamship Co. Ltd. Port Middlesbrough Voyage ✓  
 Steam Pressure in Main Boilers 14.5 Kc ✓ Surveyed Afloat ✓ in Dry Dock ✓ & Smiths DD (State name of Dock.)

in Donkey Boilers ✓ Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

Last Report No. \_\_\_\_\_ Port \_\_\_\_\_  
 Particulars of Examination and Repairs (if any) Classification

(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. 24/7.5 10/7/40 E

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? yes

" " Donkey " " " ✓

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 PF 28/6 SF 8/7 PA 17/7 C 11/7 SA 10/7/40 Present condition of funnel Satisfactory

Did the Surveyor examine the Safety Valves of the Main Boiler? yes To what pressure were they afterwards adjusted under steam? 14.5 Kc/m<sup>2</sup>

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? yes , 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? yes , and of the Donkey Boilers? ✓

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

Has shaft now been changed? no 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 3/7/40 State the distance between lignum vitae embedding metal of stern bush and top of after bearing of screw shaft 1/8"

Engine parts, when referred to by numbers, should be counted from forward.

Is electric light and/or power fitted? yes

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

Has 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. To complete the following remains to be done viz. Examination of the L.P. slide, H.P. & L.P. bottom ends, condenser, circulating pump casing & impeller, main steam & aux steam pipes over 3" bore to examine & test as per Rule Regto, the shaft connecting the reciprocating engine to the main line of shafting to examine before end of August 1941, bilge & sanitary pumps, after lubricating, oil pump & water will be completed at the first convenient opportunity.

Now done. Examined the cylin. pistons, H.P. & M.P. piston valves air pump (independent) circulating pump engine pumping arrangements, ballast pump, gravel, thrust intermediate

General Observations, Opinion, and Recommendation: The machinery of this vessel

(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.)

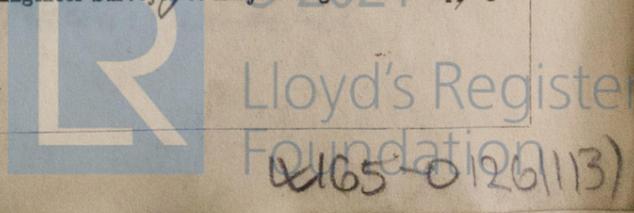
is eligible in our opinion to have a record of L.M.C. (with date) on completion of the survey, & notation of T.S.C.L. 7.40, subject to the back tube plates port & starboard forward boilers being again examined before the end of February 1941. The shaft connecting the reciprocating engine to the main line of shafting to be specially examined before end of August 1941

Survey Fee (per Section 29) £ : : Fees applied for \_\_\_\_\_ 19 \_\_\_\_\_  
 Special Damage or Repair Fee (if any) (per Section 29.) £ : : Received by me, \_\_\_\_\_ 19 \_\_\_\_\_  
 Travelling expenses (if chargeable) £ : : \_\_\_\_\_

J. B. [Signature] & R. J. Easthope  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_  
 Assigned Am. 8.40 Subject

note Mch. [Signature] on other endorsement



Insert Character of Ship and Machinery precisely as in the Register Book

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

+ Tail shafts, M.P. crank pin & bottom end, Michell thrust & pads, propeller & fastenings, sea connections & fastenings, stern bush, forward lubricating oil pump & engine, exhaust-turbine with gears, pinions, shafts, bearings, teeth, clutch & blading, steering engine & windlass, dynamo engines, lubricating oil cooler, & feed heaters.

The tail shaft (CL) down, examined & found in order. The main boilers examined in their entirety together with the superheaters. Safety valves adjusted under steam to  $14.5 \text{ kg/cm}^2$ .

Repairs; Tube plates renewed on both feed heaters, originals corroded. Copper tubes renewed in forward heater.

Suction & delivery valve seats on forward feed pump machined up in way of local corrosion.

Port Forward Boiler; new seat fitted in aux check valve.

Starboard aft - aux stop valve spindle renewed.

M.P. Piston Rod; This rod was found bent just below the cone end, the rod carefully examined & found in order. The top end bearings now adjusted & the rod lined up. A new piston rod has been ordered, & will be fitted at the first convenient opportunity.

See Secretary's Letter 4/7/40 E.

(1) Blank flanging devices are fitted on the deep oil tank suction.

(2) Gutterways & lining are fitted in way of the deep oil tank bulkheads in the holds.

(3) The suction pipes fitted in the tank under the boilers, are connected to the tallest line & as this tank is to be used exclusively for boiler feed water, non-return valves have been fitted.

The tank will be filled by means of a hose through the sounding pipes.

(4) The sizes of the tank air pipes are satisfactory.

(5) The chain locker is provided with means of draining.

(6) The valves in the deep oil tanks are controlled from outside the compartment, in which the tanks are situated.

Note. Port & Starboard Forward Boilers.

The back tube plates in way of the tubes were found corroded, & it was recommended that these plates be again examined before the end of February 1941.

In the meantime the plates are in an efficient condition. Copy of Letter 4 attached hereto.

R.F.E.

W165-01261213)

**S.S. "EMPIRE ENDURANCE"**

**Electrical Equipment.**

The electrical equipment was generally examined and the insulation resistances of the main cables measured. Faults on sub-circuits were repaired and defective fittings and switches renewed as necessary. No. 1 generator was removed, the shunt field coils were rewound, the fields sixed and varnished, the armature sixed and varnished and the commutator skimmed and undercut. The generator was refitted on board and both sets run on the ship's load plus the degaussing load with satisfactory results. Don switches were fitted for ship's darkening. The electrical equipment is now in my opinion in good order and safe working condition.

See:-

*Gauterson*



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