

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

(Received at London Office)

MAR 1 1940

Date of writing Report 29-2-1940 When handed in at Local Office 29-2-1940 Port of Leith
 in Book. Survey held at Leith Date, First Survey 4-12-39 Last Survey 24-2-1940
 on the Machinery of the ~~Wood, Iron or Steel~~ "EMPIRE WARRIOR" ex "BIANCA" (No. of Visits 20)
 Gross 1306 Vessel built at Hamburg By whom Hamburg Elbe Schiffsw. Year. Month.
 Net 721 Engines made at Oberhausen By whom Lute Hoffnungshttte When 1921
 Main Boilers 2 S.B. Boilers, when made (Main) 1921 (Donkey) - When 1921
 Owners Ministry of Shipping Owners' Address Wat. Hartlepool
 Managers Messrs. Smith, Hogg & Co. Ltd. (if not already recorded in Appendix to Key, per Book.)
 Port London Voyage
 Surveyed Afloat Is in Dry Dock Hence of Walls, Edinburgh, The Shore, Particulars of Classification (which must be inserted
 (State name of Dock.) West Pier. precisely as in Register Book & Supplements).

Report No. _____ Port _____
 Particulars of Examination and Repairs (if any) L.M.C.

Medical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules. State clearly the nature 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 descriptions being detailed in the body of the report, should be briefly summarised at the end of the report. State also the names and initials of any letters respecting this case.

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 ✓

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

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

was not done, state for what reasons?

What parts of the Boilers could not be thus thoroughly examined?

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

latest date of internal examination of each boiler 19/12/39 & 4/1/40

6. Surveyor examine the Safety Valves of the Main Boiler? Yes

10. Surveyor examine the Safety Valves of Donkey Boiler?

3. Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? Yes

3. Does the Surveyor examine the drain plugs of the Main Boilers?

Surveyor examine all the mountings of the Main Boilers? Yes

new shaft now been drawn and examined? Yes Is it fitted with continuous liner? Yes

Has the draft now been changed? No. If so, state reasons

Has the shaft now fitted been previously used? Has it a continuous liner?

ate of examination of Screw Shaft 5-12-39 State the distance between lignum vitae ~~on 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.

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

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

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

done: Vessel placed in dry dock, the propeller, stern bush, sea connections and outside fallings examined. The screw shaft drawn in, examined and found in order.

main engine, cylinders, pistons, valves, chests, crank, thrust, and tunnel shafting, all pumps
 & other with their valves, connections, condenser (tested), steering engine, winch, etc., pumping
 engine examined and found on hand in good order.

electrical equipment and generator has been examined, overhauled, new cables fitted where
necessary. Megger tested and found in order. It was afterwards examined under working conditions
and found satisfactory. All main and auxiliary steam pipes were removed, tested by
hydraulic pressure to 450 lbs/sq. in, placed in order and replaced.

(See continuation.)
 General Observations, Opinion, and Recommendation:—The machinery of this vessel is now
 (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. 149 lb., F.D., &c.)
 C 2, 34,
 a safe working condition and eligible, in my opinion, for the record of L.M.C. 2-40
 D.T.S.C.L. examined 2-40.

by Fee (per Section 29).....	<u>L.M.C.</u>	£ 20 : 0 : 0	Fees applied for 29/2/19 40
al Damage Repair Fee (if any).....		£ 5 : 5 : 0	
(per Section 29.)			
elling expenses (if chargeable).....		£ : :	Received by me, 28/5/19 40

Committee's Minute

signed

TUE. 12 MAR 1940

See Lit. J. E. Rpt. 20041

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register
Foundation

✓ 34 - 00121120

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

S.S. "EMPIRE WARRIOR" ex "BIANCA."

Both boilers examined internally and externally with mountings, doors etc. and found on placed in a safe working condition. The scantlings of the boilers were checked with the plans and the parts mentioned on the London letter dated 15/12/39 were specially examined and found free from strains. On completion of the repairs the boilers were examined and tested by hydraulic pressure to 250 lbs/sq" and found tight, the Superheater Headers and elements tested in place under hydraulic pressure of 400 lbs/sq". They were afterwards examined under steam and the safety valves adjusted to 180 lbs/sq".

Repairs:- Sea connections cleaned and overhauled.

New piston rings fitted to H.P. cylinder.

Condenser cleaned out, slight corrosion on shell inside reinforced with electric welding, top rest of tubes and all ferrules renewed.

Main engine holding down bolts overhauled & hardened up.

Auxiliary pumps overhauled together with connections.

All pumping arrangement connections overhauled.

Steering engine overhauled, the worm on crankshaft renewed.

Windlars overhauled & placed in good order.

Dynamo engine overhauled, the generator cleaned, overhauled and revarnished. The electrical circuits overhauled & renewed as necessary.

Port Boiler:- All plain and 3 stay tubes renewed.

Seven combustion chamber stays renewed.

A number of combustion chamber stay nuts renewed.

Small sight holes & lower manholes built up with electric welding.

All mountings & superheater overhauled.

Starboard boiler:- All plain and 10 stay tubes renewed.

Three combustion chamber stays renewed.

A number of combustion chamber stay nuts renewed.

Small sight holes & lower manholes built up with electric welding.

All mountings & superheater overhauled.

Customary adjustments made to machinery & minor repairs effected.

The pumping arrangements examined under working conditions.

The main engines examined under working conditions, ahead & astern and found in order.

J.H.

John Houston.



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