

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

(Received at London Office JUL 14 1939)

Date of writing Report 8th July 1939 When handed in at Local Office 19 Port of HAMBURG

No. in Survey held at HAMBURG Date, First Survey 4th June Last Survey 29th June 1939

Book. 5462 on the Machinery of the SS. SR. "GONCALO VELLO" (No. of ports 12)

Age { Gross 1595 Vessel built at Port Glasgow By whom Harland & Wolff Ltd. When 1913 - 3
 Net 832 Engines made at Glasgow By whom Harland & Wolff Ltd. When 1913.
 Minimal 2.11 Boilers, when made (Main) 1913 (Donkey) "
 se Power {
 of Main Boilers 2 Owners C. A. de la Cruz, Esq. Legation of Portugal
 of Donkey Boilers 1 Managers Port of Vila Rica, Voyage Portugal
 m Pressure 180 lb. If Surveyed Afloat or in Dry Dock Afloat & Dry Dock Particulars of Classification (which must be inserted
 Main Boilers 180 lb. (State name of Dock.) H. B. Miliken John precisely as in Register Book & Supplements).

st Report No. Port

Particulars of Examination and Repairs (if any) Exam. & Rep. Camp. 3rd 100 A.I. - 1.28

Periodical Surveys, when held, must be reported in detail and serially in the terms of the Rules. State clearly the use 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 details 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 not required

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

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

Donkey " " " "

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

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? ✓

Latest date of internal examination of each boiler. Present condition of funnel(s) ✓

Did the Surveyor examine the Safety Valves of the Main Boiler? of 116. Boiler To what pressure were they afterwards adjusted under steam? 180 lb.

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?

Is 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? ✓

Is shaft now been changed? yes If so, state reasons liner plate on shaft.

Is the shaft now fitted been previously used? no Has it a continuous liner? yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? ✓

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. a fit

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

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?

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

Damage Survey: At request of the Owner Representative examined the following parts of machinery through breaking of No. 2 intermediate shaft (crushed from forward) subsequently slipping off at after part of shafting and raising of main engine on the 8th June 1939 near Texhelling - vessel on a voyage from Southampton to Hamburg. - In Dry examined propeller, propeller shaft when drawn stern bush, further all cylinder pistons and slide valves crankshaft and bearings, thrust shaft and block line of funnel shafting and bearings, pumps worked by main engine pump.

See Continuation.

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. 149 lb., E.D., &c.)

as far as seen it is in good and efficient condition and eligible in my opinion to remain as classed in the Reg. Bk. with fresh records of 'Tail shaft' (14) new- 6.39. and 'BS- 5.39.

Survey Fee (per Section 29) Camp. 8th £ 1.0.0 Fees applied for 29.6.1939

Special Damage & Repair Fee (if any) (per Section 29.) £ 18.10.0 Received by me, 19

Travelling expenses (if chargeable) £ 0.15.0

Committee's Minute 28 JUL 1939

Assigned 5.39

Friedrich Hill
 Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

STEEL SC. SR. "GONCALO VELHO."

lever and straps, 'spinal governor', main steam pipes and found: propeller blade edges slightly damaged. con. screw lines loose on shaft. Thrust shaft after flange slightly distorted. No 1 intermediate shaft slightly bent, No 2 intermediate shaft broken just forward 2nd tunnel bearing. No 3 intermediate shaft requiring control in lathe. No 1 tunnel bearing fractured, pump lever forward pinster slack and material in way of eye hole stretched, lever main shaft bent. 'spinal' requiring overhaul. Damage repairs carried out: Propeller edges failed. - defective

propeller shaft replaced by a new one with continuous fibres marked: Lloyd's No 2248. F.W. 19.6.39, Thrust shaft controlled in lathe and after flange skimmed up, No 1 tunnel shaft straightened and annealed, skimmed over in lathe, No 2 tunnel shaft renewed (marked: Lloyd's No 2249. F.W. 19.6.39), No 3 tunnel shaft controlled in lathe and skimmed over, all shaft coupling holes of intermediate shafting re-reamed and new coupling bolts fitted. No 1 tunnel bearing renewed, all shafting re-lined, pump lever forward side and lever main shaft renewed, pump lever brought in 'true line' and straps re-adjusted. 'spinal' governor thoroughly overhauled, main steam pipes (copper) annealed and tested hydraulically to 360 lb. sq. inch. and afterwards replaced.

On completion examined and tested machinery under working and manoeuvring conditions and found same in order.

Test shafts:

Material Test.	Tensile Test.	Elongation.	Bend Test.	Mark.
L.M. Steel. Propeller shaft	48 kgf/mm ²	35 %	180°	Lloyd's No 2248
" " No 2 interm. shaft	49 kgf/mm ²	34.6 %	180°	" " 2249

F.W. 19.6.39.

Photo of fractured shaft and details attached.

Completion 19.6.39. Examined H. Main Boiler under steam, found tight and its safety valves correctly adjusted to 180 lb. per sq. inch.

Hamburg 1st July 1939.

Friedrich Hill