

Rpt. 4.

REPORT ON MACHINERY

No. 34386

Date of writing Report June 26 1923 When handed in at Local Office June 26 1923 Port of HLILL
 Received at London Office WED. JUL 4 1923
 No. in Survey held at Stull Date, First Survey 22-1-23 Last Survey June 21st 1923
 Reg. Book. on the S.S. "MALRIX" (Number of Visits 31)
 Master Built at Selly By whom built Cochrane & Sons Ltd. Tons { Gross 707
 Engines made at Stull By whom made C.B. Holmes & Co. Ltd. Net 358
 Boilers made at Stull By whom made C.B. Holmes & Co. Ltd. When built 1923
 Registered Horse Power Owners (R. Lise & Sons Ltd.) when made 1923
 Nom. Horse Power as per Section 28 96 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Port belonging to Stull

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13.23.34 Length of Stroke 26 Revs. per minute 102 Dia. of Screw shaft as per rule 8.08 Material of screw shaft Stull
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight
 in the propeller boss yes If the liner is in more than one length are the joints burned yes If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 4.0 Dia. of Crank shaft journals as per rule 4.36 Dia. of Crank pin 4.5 Size of Crank webs 11x4.75 Dia. of thrust shaft under
 collars 4.5 Dia. of screw 10.1-1.5 Pitch of Screw 10.1-10.5 No. of Blades 4 State whether moveable No Total surface 36 sq. ft.
 No. of Feed pumps one Diameter of ditto 2.75 Stroke 14.3/4 Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2.75 Stroke 14.3/4 Can one be overhauled while the other is at work yes
 No. of Donkey Engines two Sizes of Pumps Feed 5x32x6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 2.4 Ballast 7x7x8 In Holds, &c. F.P.T. 1 @ 2.5 No. 1. H.R. 2 @ 2.2
 No. of Bilge Injections one sizes 3.2 Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3.2
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line Above
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
 What pipes are carried through the bunkers Forward Suctions How are they protected wood casing
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Port Talbot Steel Works
 Total Heating Surface of Boilers 1683 sq. ft. Is Forced Draft fitted no No. and Description of Boilers Single ended marine
 Working Pressure 200 lbs. sq. in. Tested by hydraulic pressure to 350 lbs. sq. in. Date of test 20/4/23 No. of Certificate 3508
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 sq. ft. No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 4.9 sq. in. Pressure to which they are adjusted 200 lbs. sq. in. Are they fitted with easing gear yes
 Smallest distance between boiler or uptakes and bunkers or woodwork 24" Mean dia. of boilers 13.9 Length 10.6 Material of shell plates Stull
 Thickness 1.75 Range of tensile strength 38/32 tons Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams br.
 long. seams T.R. 0.85 Diameter of rivet holes in long. seams 1.32 Pitch of rivets 8.5 Lap of plates or width of butt straps 18
 Per centages of strength of longitudinal joint rivets 84.5 Working pressure of shell by rules 203 Size of manhole in shell 16" x 12"
 plate 85.0 Size of compensating ring 1.75 x 7 No. and Description of Furnaces in each boiler 3 Plain Material Stull Outside diameter 40.5
 Length of plain part top 39.75 Thickness of plates crown 1.3 bottom 1.16 Description of longitudinal joint welded No. of strengthening rings yes
 Working pressure of furnace by the rules 210 Combustion chamber plates: Material Stull Thickness: Sides 2.3/32 Back 2.3/32 Top 3/4 Bottom 2.3/32
 Pitch of stays to ditto: Sides 10x8 Back 10x8 Top 11x8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 210
 Material of stays Stull Area at smallest part 2.04 sq. in. Area supported by each stay 80 sq. in. Working pressure by rules 216 End plates in steam space:
 Material Stull Thickness 1.32 Pitch of stays 8.2 x 18 How are stays secured br. & w. Working pressure by rules 208 Material of stays Stull
 Area at smallest part 7.5 sq. in. Area supported by each stay 333 Working pressure by rules 216 Material of Front plates at bottom Stull
 Thickness 1.5 Material of Lower back plate Stull Thickness 1.5 Greatest pitch of stays 3.3/4 x 9.5 Working pressure of plate by rules 214
 Diameter of tubes 3.5 Pitch of tubes 4.3/4 Material of tube plates Stull Thickness: Front 1.5/16 Back 7/8 Mean pitch of stays 10.5
 Pitch across wide water spaces 1/4 Working pressures by rules 270 Girders to Chamber tops: Material Stull Depth and
 thickness of girder at centre 11 x 7/8 (2) Length as per rule 2.10 x 3.5 Distance apart 11 Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 210 Steam dome: description of joint to shell yes % of strength of joint yes
 Diameter yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes
 Pitch of rivets yes Working pressure of shell by rules yes Crown plates yes Thickness yes How stayed yes

SUPERHEATER. Type yes Date of Approval of Plan yes Tested by Hydraulic Pressure to yes
 Date of Test yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 Diameter of Safety Valve yes Pressure to which each is adjusted yes Is Easing Gear fitted yes

W49.0107

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied: Two top end bolts & nuts. Two bottom end bolts & nuts. Two main bearing bolts & nuts. Set of coupling bolts & nuts. Air, feed & bilge pump valves. 6 pump ring studs & nuts. Main & donkey chuck valves. Safety valve spring. 3 condenser tubes. Assorted bolts & nuts, & iron various sizes.

The foregoing is a correct description,

For CHARLES D. HOLMES & Co. LTD.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1923. Jan 22, 31. Feb 1, 16, 22, 27. May 7, 13, 14, 16, 19, 27. Apr 6, 10, 12, 16, 20, May 2, 17.
During erection on board vessel -- 16, 23, 24, 30, Jun 4, 5, 7, 11, 12, 16, 20, 21.
Total No. of visits 31

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 2.5.23 Slides 18.5.23 Covers 2.5.23 Pistons 18.5.23 Rods 18.5.23

Connecting rods 18.5.23 Crank shaft 2.5.23 Thrust shaft 2.5.23 Tunnel shafts 2.5.23 Screw shaft 2.5.23 Propeller 6.4.23

Stern tube 6.4.23 Steam pipes tested 10.6.23 Engine and boiler seatings 30.5.23. Engines holding down bolts 5.6.23

Completion of pumping arrangements 21.6.23. Boilers fixed 5.6.23 Engines tried under steam 21.6.23

Completion of fitting sea connections 6.4.23 Stern tube 6.4.23 Screw shaft and propeller 6.4.23

Main boiler safety valves adjusted 16.6.23. Thickness of adjusting washers S. $\frac{3}{8}$ P $\frac{3}{8}$

Material of Crank shaft Steel Identification Mark on Do. LLOYDS NO 57 J.H.M. Material of Thrust shaft Steel Identification Mark on Do. LLOYDS NO 57 J.H.M.

Material of Tunnel shafts do Identification Marks on Do. do. Material of Screw shafts do Identification Marks on Do. do.

Material of Steam Pipes 1.5 Copper 4" Bore x 6.5. Test pressure 400 lbs per sq in

Is an installation fitted for burning oil fuel

no

Is the flash point of the oil to be used over 150°F.

✓

Have the requirements of Section 49 of the Rules been complied with

✓

Is this machinery duplicate of a previous case

✓

If so, state name of vessel

✓

General Remarks (State quality of workmanship, opinions as to class, &c. The Engines & boiler of this vessel have been built under special survey & in accordance with the approved plans and the Rule requirements. The materials & workmanship are good. The engines & boiler have been satisfactorily secured on board, tried under working conditions & found in order. Safety valves adjusted as above & pumping arrangements found in order.

The machinery is eligible in my opinion to have record in the Register Book of +L.M.C. 6.23.

Note: The engines of this vessel have one main feed & one main bilge pump. This arrangement was submitted, and agreed to in the Secretary's letter E. of 1.6.23.

It is submitted that this vessel is eligible for THE RECORD. +L.M.C. 6.23. C.L.

The amount of Entry Fee ... £ 2 : 0 :

Special ... £ 24 : 0 :

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) £ :

When applied for,

3/7/1923.

When received,

18/8/23

Committee's Minute TUE. 10 JUL. 1923

Assigned

+ L.M.C. 6.23 C.L.

TUE AUG. 21 1923

John Thackeray
Engineer Surveyor to Lloyd's Register of Shipping.

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Foundation

CERTIFICATE WRITTEN