

REPORT ON MACHINERY.

No. 27525

Newcastle Report No. 41989.

Received at London Office

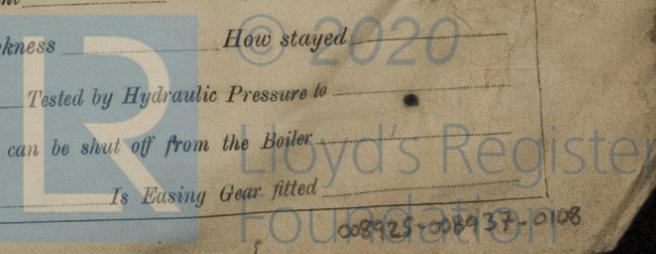
Date of writing Report 27 MAY 1919 When handed in at Local Office 27 MAY 1919 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 25 July 1918 Last Survey 11th June 1919
 Reg. Book. on the Engines of the new steel S.S. WAR HARBOUR. (Number of Visits 49)
 Master W. A. Metcalf Built at Blyth By whom built Blyth S. B. & S. J. Co. Ltd. When built 1919
 Engines made at Sunderland By whom made Richardsons, Westgarth St. (c. 2145) when made 1919
 Boilers made at Sunderland By whom made do. (c. 2146) when made 1919
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Section 28 368 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25 - 41 - 68 Length of Stroke 45 Revs. per minute 70 Dia. of Screw shaft 13.3 Material of screw shaft Steel
 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 5-0
 Dia. of Tunnel shaft as per rule 12.4 Dia. of Crank shaft journals as per rule 13.02 Dia. of Crank pin 13.25 Size of Crank webs 8 3/16 x 24 1/2 Dia. of thrust shaft under
 collars 13.25 Dia. of screw 16-0 Pitch of Screw 16-3 No. of Blades 4 State whether moveable No Total surface 75 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 9 1/2 x 7 x 18; 10 1/2 x 12 1/2 x 21 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 @ 3" In Holds, &c. No 1 - 2 @ 3"; No 2 - 2 @ 3"; No 3 - 2 @ 3"
 No. of Bilge Injections 1 sizes 11" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes. 3 1/2"
 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 Main below others 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 hold suction How are they protected under limber boards
 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 top platform

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel Boilers built under B.C. survey
 Total Heating Surface of Boilers 6100 Is Forced Draft fitted No. No. and Description of Boilers Three single ended Marine
 Working Pressure 180 Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler 51.7 sq ft No. and Description of Safety Valves to
 each boiler _____ Area of each valve _____ Pressure to which they are adjusted 185 Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams
 long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 Size of compensating ring _____ No. and Description of Furnaces in each boiler Three Brighton Material _____ Outside diameter _____
 Length of plain part top _____ Thickness of plates crown _____ Description of longitudinal joint _____ No. of strengthening rings _____
 bottom _____ bottom _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____ End plates in steam space: _____
 Material of stays _____ Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of stays _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and
 thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ Steam dome: description of joint to shell _____ % of strength of joint _____
 Diameter _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

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

Is a Report also sent on the Hull of the Ship?



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - *Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set each of feed and bilge pump valves; bolts, nuts, and iron of various sizes; one propeller.*

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & CO., LTD

Ridley Russell

Manufacturer.

ASSISTANT MANAGER

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

1918. Jul 25 Aug 7 Sep 24 Oct 17 25 28 Nov 5 18 22 25 Dec 11 44 20 21 Jan 15 18 25 Feb 22
Mar 20 Apr 7 9 11 14 15 23 25 28 May 1 6 12 27 Jun 11
4-11-19
40

Is the approved plan of main boiler forwarded herewith? *No*

Dates of Examination of principal parts—Cylinders *8-10-18* Slides *24-9-18* Covers *1-10-18* Pistons *1-10-18* Rods *8-10-18*

Connecting rods *24-9-18* Crank shaft *3-2-19* Thrust shaft *9-4-19* Tunnel shafts *9-4-19* Screw shaft *25-1-19* Propeller *31-12-18*

Stern tube *7-4-19* Steam pipes tested *25-4-19* Engine and boiler seatings *9-4-19* Engines holding down bolts *1-5-19*

Completion of pumping arrangements *13th June 1919* Boilers fixed *28-4-19* Engines tried under steam *6-5-19*

Completion of fitting sea connections *31st March 1919* Stern tube *14-4-19* Screw shaft and propeller *15-4-19*

Main boiler safety valves adjusted *6-5-19* Thickness of adjusting washers *Phailer P 5 S 1 3/32, C boiler P 7, S 1 3/32, S boiler P 9, S 5/16*

Material of Crank shaft *Steel* Identification Mark on Do. *2145 EWR* Material of Thrust shaft *Steel* Identification Mark on Do. *2145 EWR*

Material of Tunnel shafts *Steel* Identification Marks on Do. *2145 EWR* Material of Screw shafts *Steel* Identification Marks on Do. *2145 EWR*

Material of Steam Pipes *Steel - lap welded* Test pressure *540 lbs*

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? *Yes* If so, state name of vessel *"C" Type*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The workmanship and materials are good.
The Engines have been constructed under special survey, and the Machinery is eligible, in my opinion for classification, and the record of L.M.C 6, 19
The Boilers fitted in this vessel have been built under B.C survey and their certificate for same is attached hereto*

It is submitted that
this vessel is eligible for
THE RECORD, L.M.C 6, 19.

JWD
21/6/19
ARJ

The amount of Entry Fee ... £ : :
Special ... £ 50 : 18 : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
21.9.19

When applied for, *18 June 1919*
When received, *21.9.19*
Thomas Miller *Ed W. Butler*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 27 JUN. 1919*

Assigned *L.M.C. 6. 19.*

MACHINERY CERTIFICATE
WRITTEN.

