

REPORT ON MACHINERY.

No. 27250

Date of writing Report 10.9.18 When handed in at Local Office 4.6.18 Port of Sunderland Received at London Office TUE OCT 1 1918

No. in Survey held at Sunderland Date, First Survey 13 Feb 18 Last Survey 21 Sept 1918

Reg. Book. on the new steel S/S "WAR RAPIER" (Number of Visits 23)

Master Edmt. Built at Bristol By whom built C. Hill & Sons (250128) Gross Tons 1918

Engines made at Sunderland By whom made Richardson, Wedgath & Co. Ld (N° 2143) when made 1918

Boilers made at Renfrew By whom made Balmain & Wilson Ld. when made 1918

Registered Horse Power 498 Owners The Shipping Controller Port belonging to Bristol

Nom. Horse Power as per Section 28 498 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 76 Dia. of Screw shaft as per rule 13.4" Material of Scrap Iron

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 ✓ 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 ✓ If two

liners are fitted, is the shaft lapped or protected between the liners ✓ 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 1/4" Size of Crank webs 8 1/2" x 20 1/2" Dia. of thrust shaft under

collars 13 1/2" Dia. of screw 15'-6" Pitch of Screw 17'-0" No. of Blades 4 State whether moveable No Total surface 758

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 5 Sizes of Pumps 1 1/2", 1", 1/2", 1/4", 1/8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three of three inch In Holds, &c. Four hold two of 3", No 2 two of 3", No 3 two of 3"

No. of Bilge Injections One size 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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 Valves & locks

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 Suction for Hold & Fore peak How are they protected At side & clipped

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

Dates of examination of completion of fitting of Sea Connections 4-7-18 of Stern Tube 4-7-18 Screw shaft and Propeller 4-7-18

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from Two Escapes

BOILERS, &c.—(Letter for record RECEIVED) Manufacturers of Steel RECEIVED

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted 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

Percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell

Use of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part Thickness of plates Description of longitudinal joint No. of strengthening rings

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

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter 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

Ch 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 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

Material Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Stays fitted with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top end, 2 bottom end, 2 main bearing + 6 coupling bolts + nuts. Main + donkey chuck valves, H.P. piston springs, spare suction + delivery valves all pumps, 2 Safety Valve springs, 1 Solid Piston valve, connecting rod + piston springs + 1 piston valve centrifugal pump, 12 pump ring studs + nuts, bolts + iron assorted. outfit as per amended specification.
Boilers 4 Large Return tubes, 16 small, spare joints, bricks, complete set expanders + rings

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

Richard H. Russell

ASSISTANT MANAGER

Manufacturer of Main Engines

Dates of Survey while building { During progress of work in shops -- 1918 Feb 13 Mar 20 Apr 5 11 16 25 May 10 14 24 28 29
During erection on board vessel -- Judge 25th July 5th 25th 30th 7th Aug 16th Aug 21st Aug 24th Sept 12th Sept 14th 20th Sept 22nd
Total No. of visits 23

Is the approved plan of main boiler forwarded herewith

" " " donkey "

Dates of Examination of principal parts—Cylinders 20-3-18 Slides 25-4-18 Covers 14-5-18 Pistons 25-4-18

Connecting rods 16-4-18 Crank shaft Hpl Thrust shaft 24-5-18 Tunnel shafts 24-5-18 Screw shaft 24-5-18

Stern tube 14-5-18 Steam pipes tested 12-9-18 Engine and boiler seatings 26-7-18 Engines holding down bolts 10-7-18

Completion of pumping arrangements 20-9-18 Boilers fixed 27-8-18 Engines tried under steam 2-8-September 1918

Main boiler safety valves adjusted 20th September 1918 Thickness of adjusting washers P 7/16 5/16 5/16 5/16

Material of Crank shaft S. Steel Identification Mark on Do. 5994 A.B. Material of Thrust shaft S. Steel Identification Mark on Do. 3250

Material of Tunnel shafts S. Steel Identification Marks on Do. 1112 B.W. Material of Screw shafts S. Steel Identification Marks on Do. 1112 B.W.

Material of Steam Pipes Steel Test pressure 540 lbs

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 100° F.

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

Is this machinery duplicate of a previous case No If so, state name of vessel

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

The material and workmanship is good.

The engines have been constructed under special survey and have been found to be fitted in the vessel.

These Engines have now been fitted in the above vessel + tried with satisfactory results. Two Babcock + Wilcox Water tube Boilers (Glasgow Report No. 37565) have now been erected on board + tested by hydraulic pressure to 360 lbs. + the Safety Valves adjusted under steam to 185 lbs.

However Forced Draught is fitted but this will not be used unless present arrangement is altered as in the first instance it was found that the Boilers generated more steam than could be used by the engines + secondly because it was found that it was not advisable to open any furnace door when the fan was running unless all the draught dampers were closed on account of flow back of flame.

This vessel machinery in my opinion is eligible for record F.L.M.C. 9-18

The amount of Entry Fee £ 100 : 0 : 0
Special fee due 1/10/18 6 : 0 : 0
Donkey/Boiler Fee due 1/10/18 13 : 0 : 0
Travelling Expenses (4 days) £ 52 : 0 : 0

When applied for, 30th Sept 1918

When received, 26th Oct 1918

Committee's Minute

Assigned

L. Davis

G. A. Dyden Tozer

Engineer Surveyor to Lloyd's Register of British + Foreign Shipping.

It is submitted that

this vessel is eligible for

THE RECORD + L.M.C. 9-18 F.D.

WATER TUBE BOILERS
SUBJECT TO ANNUAL SURVEY

MACHINERY CERTIFICATE
WRITTEN

FRI JUL 30 1920

FRI 31 OCT 1919

FRI 24 JAN 1919

Lloyd's Register
Foundation