

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 21/6/1918 Port of Middlesbrough 21 JUN. 1918

No. in Survey held at Stockton-on-Tees Date, First Survey 7th Dec 1917 Last Survey 13th June 1918

Reg. Book. on the Steel Screw Steamer WAR VULTURE (S.S. No 671) Tons { Gross Net

Master Built at Stockton By whom built Messrs Richardson Duck & Co When built 1918

Engines made at Stockton By whom made Messrs Blair & Co Lim (No 1883) when made 1918

Boilers made at Stockton By whom made Messrs Blair & Co Lim when made 1918

Registered Horse Power Owners Port belonging to

Com. Horse Power as per Section 28 578⁵¹⁷ Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 77 Dia. of Screw shaft as per rule 14.7 Material of screw shaft as fitted 15.5 Eng 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

the propeller boss yes If the liner is in more than one length are the joints burned in one 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 tight fit If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-1 1/2"

Dia. of Tunnel shaft as per rule 13.33 Dia. of Crank shaft journals as per rule 14.0 Dia. of Crank pin 14.5 Size of Crank webs 28x9 Dia. of thrust shaft under

collars 14 3/4 Dia. of screw 17'-6" Pitch of Screw 16'-6" No. of Blades 4 State whether moveable no Total surface 98.2 sq

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines 3 Sizes of Pumps 10 1/2 x 14 x 24 20 9 1/2 x 7 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 3 1/2" In Holds, &c. 2 @ 3 1/2" each hold except aftermost where one

@ 3 1/2" Tunnel Well one @ 3" Arranged to carry oil in DB tanks: Ballast pump valves fibre Tank valve boxes fitted with Rubber valves

No. of Bilge Injections 2 sizes 8" x 10" Connected to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 8 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 none

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 both

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 Suctions to forward holds How are they protected wood ceiling

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 8.4.18 of Stern Tube 8.4.18 Screw shaft and Propeller 1.5.18

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door no; entered worked from by trunks from deck

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Sons Lim

Total Heating Surface of Boilers 7668 Is Forced Draft fitted yes No. and Description of Boilers 3 single ended

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 11.5.18 No. of Certificate 5897

Can each boiler be worked separately yes Area of fire grate in each boiler 63.3 sq No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 9.62 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 7'-0" Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates steel

Thickness 1 1/4" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R lap

long. seams 2 B-3 Riv Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 5/8" Lap of plates or width of butt straps 19 1/2 + 1 1/2 in

Per centages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 182 Size of manhole in shell 16" x 12"

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 50 3/4"

Length of plain part top 12" Thickness of plates 32 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 23/32 Back 4/8 Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 10 5/8 x 9 1/4 Back 10 1/4 x 8 3/4 Top 10 5/8 x 9 1/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180

Material of stays steel Diameter at smallest part 2.31 Area supported by each stay 98.5 Working pressure by rules 211 End plates in steam space

Material steel Thickness 1 3/32 Pitch of stays 20 1/2 x 21 1/2 How are stays secured nuts + 8 3/4 x 3/32 washers Working pressure by rules 191 Material of stays steel

Diameter at smallest part 8.29 Area supported by each stay 46.7 Working pressure by rules 185 Material of Front plates at bottom steel

Thickness 3/32 Material of Lower back plate steel Thickness 2 3/32 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 187

Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 3/8 Material of tube plates steel Thickness: Front 3/32 Back 3/4 Mean pitch of stays 9 1/2

Pitch across wide water spaces 13 3/8 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 10" x 1 1/4 Length as per rule 35 3/4 Distance apart 10 3/8 Number and pitch of stays in each 3 @ 9 1/2"

Working pressure by rules 188 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

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

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

If stiffened 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? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two each of connecting rod top end and bottom end and main bearing bolts and nuts, 3 crank shaft + 3 tunnel shaft coupling bolts and nuts; one set each feed and bilge pump valves; 3 each main + donkey feed check valves, assorted bolts + nuts, iron of various sizes, one propeller and minor gear.*

The foregoing is a correct description,

For BLAIR & Co., LIMITED:

Geo Pittsuship
Manufacturer.

Dates of Survey while building: During progress of work in shops: 1917 Dec 7, 10, 1918 Jan 18, 23, 25, 29, 30, Feb 1, 4, 6, 7, 11, 14, 18, 22, 25, 27, Mar 2, 5, 7, 11, 12, 14, 18, 19, 20, 22, 25, 26, 28, Apr 2, 4, 5, 8, 10, 11, 12, 15, 17, 19, 22, 24, 26, 29, 30, May 1, 3, 6, 7, 9, 11, 13, 14, 16, 17, 24, 27, 30, June 3, 4, 6, 10, 12, 13. Total No. of visits: *66*

Is the approved plan of main boiler forwarded herewith? *yes*
Return for duplicate Boiler Donkey

Dates of Examination of principal parts—Cylinders *5-3-18* Slides *5-3-18* Covers *5-3-18* Pistons *7-3-18* Rods *18-3-18*
Connecting rods *18-3-18* Crank shaft *13-3-18* Thrust shaft *7-3-18* Tunnel shafts *13-3-18* Screw shaft *22-4-18* Propeller *17-4-18*
Stern tube *4-4-18* Steam pipes tested *Apr 11-8-17* Engine and boiler seatings *4-4-18* Engines holding down bolts *22-5-18*
Completion of pumping arrangements *4-6-18* Boilers fixed *4-6-18* Engines tried under steam *7-6-18*
Main boiler safety valves adjusted *3-6-18* Thickness of adjusting washers *P-Bl 5-7/8; C-Bl 5-7/8; S-Bl 5-3/8*
Material of Crank shaft *Eng Steel* Identification Mark on Do. *7131* Material of Thrust shaft *Eng Steel* Identification Mark on Do. *2977-N*
Material of Tunnel shafts *Eng Steel* Identification Marks on Do. *2977-N* Material of Screw shafts *Eng Steel* Identification Marks on Do. *7131*
Material of Steam Pipes *Lap welded 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 150°F.
Have the requirements of Section 49 of the Rules been complied with?
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 machinery of this vessel has been built under special survey in accordance with the Rules, the specification and amendments to same, stated to have been sanctioned by the C. G. M. S. The materials and workmanship are good. On completion the engines, boilers and auxiliaries were examined under full working conditions and found satisfactory.

The machinery being in a good and efficient condition renders the vessel eligible in my opinion to have the notations of $\frac{1}{2}$ L.M.C-6-18 and "Carrying fuel oil F.P above 150° Fah in D.B" in the Register Book, subject to the rubber valves in the tank valve boxes remaining efficient.

Note:— *The vessel is fitted with Electric Light and "Wireless"*

It is submitted that this vessel is eligible for THE RECORD + LMC 6.18. F.D.

The amount of Entry Fee ... £ *115-13-0*
Special ... £
Donkey Boiler Fee ... £
Travelling Expenses (if any) £
When applied for, *17/6/1918*
When received, *25-6-1918*

Wm Morrison
Engineer's Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute
Assigned *+ L.M.C 6-18, J.D.*

MIDDLESBRO'

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