

Rpt. 4.

REPORT ON MACHINERY.

No. 8102

Date of writing Report 24-4-19

When handed in at Local Office

10

Port of

Received at London Office

MON. 28. APR. 1919

No. in Survey held at

Date, First Survey 4 Feb: 1918

Last Survey 17 April 1919

Reg. Book.

on the

T.S.S. OTIBA ex "War Paris"

(Number of Volls 67

Gross 7995

Net 4911

When built 1919

Master

Built at

Belfast

By whom built

Harland & Wolff L^{td}

when made

Engines made at

Belfast

By whom made

when made

Boilers made at

By whom made

Registered Horse Power

Owners

Chas Savill & Albion Capt Port belonging to Southampton

Nom. Horse Power as per Section 28 1138

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engine Twin Screw Triple Expansion of Cylinders 6 No. of Cranks 6
Dia. of Cylinders 26 $\frac{1}{2}$ -44-73 Length of Stroke 48 Revs. per minute 82 Dia. of Screw shaft as per rule 14.8 Material of screw shaft I. 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 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 63
Dia. of Tunnel shaft as per rule 13.7 Dia. of Crank shaft journals as per rule 14.37 Dia. of Crank pin 4 $\frac{3}{4}$ Size of Crank webs 23 \times 9 Dia. of thrust shaft under
collars 15 Dia. of screw 17-3 Pitch of Screw 18-0 No. of Blades 4 State whether moveable Yes Total surface 90 sq ft.
No. of Feed pumps 2 Diameter of ditto 4 $\frac{1}{2}$ Stroke 24 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 4 $\frac{1}{2}$ Stroke 24 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 La. & H. Pump Sheet No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 6-3 $\frac{1}{2}$ In Holds, &c. 12-3 $\frac{1}{2}$ 1-2 $\frac{1}{2}$

No. of Bilge Injections 2 sizes 13 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes-3 $\frac{1}{2}$
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
Are all connections with the sea direct on the skin of the ship Yes-Except Main Tank suction 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 Below
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 Fore hold suction How are they protected Wood
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 Engine Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel B. Colville & Son L^{td}
Total Heating Surface of Boilers 17079 sq ft Forced Draft fitted Yes No. and Description of Boilers 3 Double End Cylindrical
Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 10-1-19 No. of Certificate 538
Can each boiler be worked separately Yes Area of fire grate in each boiler 1468 sq ft No. and Description of Safety Valves to
each boiler 3-Quick Spring Area of each valve 1419 sq ft Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 14 Mean dia. of boilers 16-3 Length 20-6 Material of shell plates Steel
Thickness 1 $\frac{1}{2}$ Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Rivet
long. seams Matt Lubbock Diameter of rivet holes in long. seams 1 $\frac{1}{2}$ Pitch of rivets 10 $\frac{1}{2}$ Lap of plates on width of butt straps 22 $\frac{1}{2}$
Per centages of strength of longitudinal joint rivets 85.2 Working pressure of shell by rules 207 lbs Size of manhole in shell 16 \times 12
Size of compensating ring No. and Description of Furnaces in each boiler 8-Right Material Steel Outside diameter 44 $\frac{1}{2}$
Length of plain part top 4 Thickness of plates crown 3.19 Description of longitudinal joint Welded No. of strengthening rings
bottom 8 Thickness of plates bottom 3.32 Working pressure of shell by rules 207 lbs Material Steel Outside diameter 44 $\frac{1}{2}$
Working pressure of furnace by the rules 213 lbs Combustion chamber plates: Material Steel Thickness: Sides 4 $\frac{1}{2}$ Back 4 $\frac{1}{2}$ Top 4 $\frac{1}{2}$ Bottom 4 $\frac{1}{2}$
Pitch of stays to ditto: Sides 9 \times 8 $\frac{1}{2}$ Back 9 \times 8 $\frac{1}{2}$ Top 9 \times 6 $\frac{1}{2}$ If stays are fitted with nuts or riveted heads Yes Working pressure by rules 211 lbs
Material of stays Steel Area at smallest part 2076 2.4 sq ft supported by each stay 778 sq ft Working pressure by rules 241 lbs End plates in steam space
Material Steel Thickness 1 $\frac{1}{2}$ Pitch of stays 21 \times 16 How are stays secured Nut & Washer Working pressure by rules 201 lbs Material of stays Steel
Area at smallest part 706 sq ft Area supported by each stay 336 sq ft Working pressure by rules 218 lbs Material of Front plates at bottom Steel
Thickness 1 Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
Diameter of tubes 2 $\frac{1}{2}$ Pitch of tubes 3 $\frac{1}{2}$ \times 3 $\frac{1}{2}$ Material of tube plate Steel Thickness: Front 1 $\frac{1}{4}$ Back 1 $\frac{1}{4}$ Mean pitch of stays 11 $\frac{1}{2}$ \times 7 $\frac{1}{2}$
Pitch across wide water spaces 13 $\frac{1}{2}$ Working pressures by rules 203 lbs Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 8 \times (4 \times 2) Length as per rule 52 $\frac{1}{2}$ Distance apart 8 $\frac{1}{2}$ \times 7 Number and pitch of stays in each 6-8 $\frac{1}{2}$ \times 6 $\frac{1}{2}$
Working pressure by rules 235 lbs 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

WS20-0253

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

See other sheet

The foregoing is a correct description,

For HARLAND & WOLFE Ltd.

J. E. Kebleck

Manufacturer.

Dates of Survey while building
During progress of work in shops: 1918, Feb. 14, 18, 21 up to 17th April 1919
During erection on board vessel: —
Total No. of visits: 57

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 2 Slides 2—18 Covers Pistons 8 Rods
Connecting rods 2 1/2—18 Crank shaft 7—Thrust shaft 1 Tunnel shafts Screw shaft 7—19 Propeller 9—12 1/8
Stern tube 29—11—18 Steam pipes tested 29—3—19 Engines and boiler seatings 15—3—19 Engines holding down bolts 15—3—19
Completion of pumping arrangements 16—4—19 Boilers fixed 15—3—19 Engines tried under steam 17—4—19
Completion of fitting sea connections 6—1—19 Stern tube 6—1—19 Screw shaft and propeller 21—2—19
Main boiler safety valves adjusted 8—4—19 Thickness of adjusting washers 1/32
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S* Material of Thrust shaft *do* Identification Mark on Do. *do*
Material of Tunnel shafts *do* Identification Marks on Do. *do* Material of Screw shafts *do* Identification Marks on Do. *do*
Material of Steam Pipes *W. Iron* Test pressure 600 lbs. 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? *Yes* If so, state name of vessel *T.S.S. "Wax" "Canus" "Bardis" } 2 class*

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules, also in the earlier stage of construction to the instructions of the Shipping Controller.

The workmanship and the materials are of good description throughout, and on trial under steam in Belfast Lough, the machinery worked satisfactorily.

In my opinion, it is eligible for record + L.M.C. 4-19, with notation "Forced Draft" + "Electric Light"

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.19. ED.

J.W.D. 30/4/19. J.R.R.

R. F. Pennington

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee *Free as applied to*
Special *177. 13-4*
Donkey Boiler Fee *...*
Travelling Expenses (if any) *£*

When applied for, 18-4-19

When received, 30/4/19

Committee's Minute

Assigned

FRI MAY 2 - 1919

+ L.M.C. 4-19 (J.D.)

MACHINERY CERTIFICATE WRITTEN.

Rpt. 9a.

Port of *Belfast*

Continuation of Report No. 8102, dated 21st April 1919 on the

T.S.S. "Atrax" ex "Wax Parus"

1 Ballast Pump 10 1/2 x 14 x 24
1 Fresh Water 3 x 3 x 4
1 Lux^y Feed 9 1/2 x 7 x 18
2 Main 15 1/2 x 11 1/2 x 24
1 General 9 1/2 x 7 x 18
1 Main Exhaust Cent^{re} 13 pipe
1 Lux^y 6

Principal items of Spare Gear

8 Connecting rod top & bottom end bolts & nuts
4 Main bearing bolts & nuts
6 Coupling bolts & nuts
Set feed & life pump valves
3 Main + 3 Lux^y feed check valves
2 C.I. propeller blades
9 Stud nuts for do
1 Air pump rod & nut
1 Guard
1 Slide valve spindle
250 firebars
20 Main condenser tubes & 80 ferrules
1 Pair connecting rod bottom end bushes
1 Pair connecting rod top
Set metallic packing H.P. piston rod
30 Barker tubes
Set spare gear for Main & Lux^y feed pumps
Ballast & Main Coss
Fan Engines
Nuts, Bolts, Nuts etc.

R. F. Pennington