

REPORT ON MACHINERY.

Received at London Office

FRI. SEP. - 6. 1918

Date of writing Report 30th Aug 1918 When handed in at Local Office 31st Aug 1918. Port of Belfast

No. in Survey held at Belfast Date, First Survey 26th Nov 1917 Last Survey 29th Aug 1918
Reg. Book. on the S.S. War Snake (Number of Visits 50) Gross 5222 Tons Net 3172 Tons

Master J. Milligan Built at Belfast By whom built Harland & Wolff L^{td} When built 1918

Engines made at Belfast By whom made when made
Boilers made at By whom made when made

Registered Horse Power Owners The Shipping Controller Port belonging to London
Nom. Horse Power as per Section 28 518 517 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Single Screw Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 78 Dia. of Screw shaft as per rule 14.6 as fitted 15.5 Material of screw shaft J. 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 60 1/2

Dia. of Tunnel shaft as per rule 13.3 as fitted 13.5 Dia. of Crank shaft journals as per rule 13.9 as fitted 14.5 Dia. of Crank pin 14 1/2 Size of Crank webs 28 x 9 Dia. of thrust shaft under collars 14 3/4 Dia. of screw 7 1/2 Pitch of Screw 16 1/2 No. of Blades 4 State whether moceable No Total surface 102 1/2 sq ft

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 Sizes of Suctions other sheet No. and size of Suctions connected to both Bilge and Donkey pumps. In Engine Room 4-3 1/2 In Holds, &c. 9-3 1/2 4 1-3

No. of Bilge Injections / sizes 8 Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size 1-3 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 - Except Main Tank Injection Chests 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 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 Low hold suction How are they protected Wood Casings
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 No - W. T. Trunked from Deck

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons L^{td}

Total Heating Surface of Boilers 7668 sq ft Forced Draft fitted Yes No. and Description of Boilers 3 - Single End Cylindrical
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1-7-18 No. of Certificate 528

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 1/2 sq ft No. and Description of Safety Valves to each boiler 2 - Direct Spring Area of each valve 9.62 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork About 2 ft Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel
Thickness 1/4 Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & Butts

long. seams Butt Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 9 1/8 Lap of plates or width of butt straps 19 1/2
Per centages of strength of longitudinal joint rivets 88.3 plate 85.6 Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12

Size of compensating ring Plate flange No. and Description of Furnaces in each boiler 3 - Brighton Material Steel Outside diameter 50 3/8
Length of plain part top 5 bottom 2 Thickness of plates crown 7 1/4 bottom 3 3/4 Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 1/16 Top 2 3/32 Bottom 2 3/32
Pitch of stays to ditto: Sides 10 5/8 x 9 1/2 Back 9 1/2 x 8 1/2 Top 10 5/8 x 9 1/2 If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 180 lbs

Material of stays Steel Area at smallest part 2 3/4 x 3 1/4 supported by each stay 98 1/2 sq Working pressure by rules 186 lbs End plates in steam space: Material Steel Thickness 1/32 Pitch of stays 2 1/2 x 2 1/2 How are stays secured Nuts & Washers Working pressure by rules 180 lbs Material of stays Steel

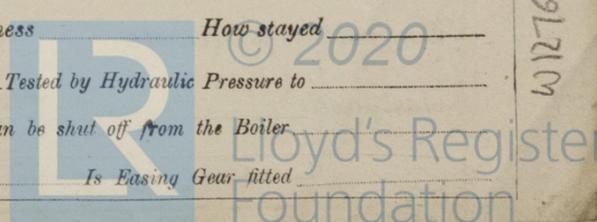
Area at smallest part 8 1/2 x 2 1/2 Area supported by each stay 45 9 3/8 Working pressure by rules 187 lbs Material of Front plates at bottom Steel
Thickness 3/2 Material of Lower back plate Steel Thickness 2 1/2 Greatest pitch of stays 13 5/8 Working pressure of plate by rules 189 lbs

Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 1/8 Material of tube plate Steel Thickness: Front 3/2 Back 3/4 Mean pitch of stays 12 x 7 3/4
Pitch across wide water spaces 13 5/8 Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 x (5/8 x 2) Length as per rule 35 7/8 Distance apart 10 5/8 Number and pitch of stays in each 3-9 1/2

Working pressure by rules 182 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



W1276-0107 1/2

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 & WOLFF Ltd.

Woburn Manufacturer.

Dates of Survey while building: During progress of work in shops - 1917, 20-~~11~~ till 29-~~11~~ Augt 1918
During erection on board vessel -
Total No. of visits 50

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

Dates of Examination of principal parts - Cylinders 5 Slides 2-28 Covers Pistons 6 Rods
Connecting rods 5-7-18 Crank shaft 5-2 Thrust shaft Tunnel shafts Screw shaft 23-7-18 Propeller 23-7-18
Stern tube 23-7-18 Steam pipes tested 14-12-17 Engine and boiler seatings 16-8-18 Engines holding down bolts 16-8-18
Completion of pumping arrangements 28-8-18 Boilers fixed 22-8-18 Engines tried under steam 27-8-18
Completion of fitting sea connections 7-8-18 Stern tube 7-8-18 Screw shaft and propeller 13-8-18
Main boiler safety valves adjusted 27-8-18 Thickness of adjusting washers 7-11-18
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 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 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 S. Wax Lemur

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 as per Specifications and instructions issued by the Shipping Controller.

The workmanship, and the materials are of good description and on trial under steam in Belfast Lough the machinery worked satisfactorily. In our opinion, it is eligible for record + L.M.C. 8-18, with notation "Forced Draft" and "Electric Light"

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.18 F.D.

9-9-18 RFR

R. F. Beven & John Pollock
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 116-0-10. When applied for, 30-8-18.
Special Fee for special survey upon with donkey boiler £ : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : : 14-10-18

Committee's Minute TUE. 10. SEP. 1918

Assigned + L.M.C. 8.18
F.D.

MACHINERY CERTIFICATE WRITTEN

S.S. Wax Snake

- 1 - Ballast Pump. 10 1/2" x 14" x 24"
- 1 - General " 9 1/2" x 7" x 18"
- 1 - Feed " 9 1/2" x 7" x 18"

Spare Gear List

- 2 Connecting rod top end bolts + nuts + 2 bottom do
- 2 Main bearings
- 6 Coupling bolts
- 2 Feed + 2 Bilge Pump valves
- 3 Main + 3 Donkey Feed Clock
- 1 Propeller (C.I. Solid)
- 1 H.P. Piston valve
- 12 Condenser tubes x 50 fowules
- 6 Air pump valves
- 1 Filter basket + 50 lbs. can fibre
- 12 boiler tubes plain
- 200 fire bars
- Iron + bolts (various)
- Gear for Auxiliaries etc. etc. and all gear to Lloyd's Rules

R. F. Beven
John Pollock

Certificate (if required) to be sent to this office. The Stencils are requested not to write on or below the space for Committee's Minute.

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