

REPORT ON MACHINERY.

No. 8943.

Received at London Office

FRI. APR. 17. 1914

Date of writing Report 15th April 1914 When handed in at Local Office 16th April 1914 Port of Southampton
 No. in Survey held at Southampton Date, First Survey 25th Sept. 1913 Last Survey 15th April 1914.
 Reg. Book. 14 Sub. on the ss. TOWY (Number of Visits 39. Tons Gross 199.02 Net 199.02)

Master Built at Southampton By whom built Day Summers & Co Ltd When built 1914
 Engines made at Southampton By whom made Day Summers & Co Ltd when made 1914
 Boilers made at Southampton By whom made Day Summers & Co Ltd when made 1914
 Registered Horse Power Owners The Royal Mail Steam Packet Co. Ltd Port belonging to Southampton
 Nom. Horse Power as per Section 28 52 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 15" - 30" Length of Stroke 24" Revs. per minute 140 Dia. of Screw shaft as per rule 6.64" Material of Iron
 as fitted 6.34" screw shaft
 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 2'-5"
 Dia. of Tunnel shaft as per rule 6.21" Dia. of Crank shaft journals as per rule 6.52" Dia. of Crank pin 6 5/8" Size of Crank webs 12 1/8" x 4 1/2" Dia. of thrust shaft under
 collars 6 5/8" Dia. of screw 6'-10" Pitch of Screw 8'-7 1/2" No. of Blades 4 State whether moveable No Total surface 21.5 ft²
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 4 1/2" x 2 3/4" x 4 1/2", 4 1/2" x 2 3/4" x 4 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room & Stokehold 3'-2" In Holds, &c. one each side (port & starboard) 2"

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes - 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 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 Bilge suction pipes to forehold How are they protected Under the 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 18-2-14 of Stern Tube 18-2-14 Screw shaft and Propeller 20-2-14
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Wm Beardmore & Co Ltd. The Lancashire Steel Co Ltd.

Total Heating Surface of Boilers 1050 ft² Is Forced Draft fitted No No. and Description of Boilers One single-ended multitubular
 Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs Date of test 21/1/14 No. of Certificate 305.
 Can each boiler be worked separately Yes Area of fire grate in each boiler 40 ft² No. and Description of Safety Valves to
 each boiler 2-spring loaded Area of each valve 7.07 ft² Pressure to which they are adjusted 125 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 11'-0 23/32" Length 9'-0" Material of shell plates Steel
 Thickness 23/32" Range of tensile strength 29/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S.R. Lap
 long. seams D.R. Butt Diameter of rivet holes in long. seams 1" Pitch of rivets 4" Lap of plates or width of butt straps 10"
 Per centages of strength of longitudinal joint plate 81.2% Working pressure of shell by rules 122 lbs Size of manhole in shell 16 x 12"
 Size of compensating ring 6 1/2" x 23/32" No. and Description of Furnaces in each boiler 2-Corrugated Material Steel Outside diameter 3'-5 1/4"
 Length of plain part top 3' Thickness of plates crown 3/8" Description of longitudinal joint Weld No. of strengthening rings 1
 bottom 3' Working pressure of furnace by the rules 122 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/32" Back 1 1/32" Top 1 1/32" Bottom 7/8"
 Pitch of stays to ditto: Sides 9 1/2" x 7 3/4" Back 10" x 10" Top 8" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 120 lbs
 Material of stays Steel Diameter at smallest part 1.19 ft² Area supported by each stay 72 ft² Working pressure by rules 132 lbs End plates in steam space:
 Material Steel Thickness 13/16" Pitch of stays 16 1/2" x 15 1/2" How are stays secured D.N. Washers Working pressure by rules 124 lbs Material of stays Steel
 Diameter at smallest part 3.26 ft² Area supported by each stay 252 ft² Working pressure by rules 134 lbs Material of Front plates at bottom Steel
 Thickness 13/16" Material of Lower back plate Steel Thickness 23/32" Greatest pitch of stays 13 1/2" x 10" Working pressure of plate by rules 126 lbs
 Diameter of tubes 3" Pitch of tubes 4 1/8" x 4" Material of tube plates Steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 12 3/16"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 129 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 5 1/2" x 1 1/2" Length as per rule 24" Distance apart 9" Number and pitch of stays in each 2-8"
 Working pressure by rules 128 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes 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

Dated April 23, 1914.

7810-949

Lloyd's Register Foundation

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— Two top-end bolts & nuts; two bottom end bolts & nuts; two main bearing bolts; one set of coupling bolts; one set of feed & bilge pump valves; assorted bolts & nuts; & iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops --	Sept 25 th , Oct 3, 15, 22, 29, Nov. 3, 6, 14, 18, 19, 26, Dec. 1, 8, 11, 15, 18, 29, 30, Jan. 1, 9, 15, 21, 26, 30, Feb. 4, 11, 18, 20, 1914
	During erection on board vessel --	Feb. 24, Mar. 2, 4, 6, 9, 11, 18, 20, Apr. 8, 15, 1914.
Total No. of visits		39.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 18-11-13 Slides 1-12-13 Covers 14-11-13 Pistons 1-12-13 Rods 3-10-13 Connecting rods 19-11-13 Crank shaft 15-10-13 Thrust shaft 26-1-14 Tunnel shafts 11-12-13 Screw shaft 13-2-14 Propeller 11-2-14 Stern tube 13-12-13 Steam pipes tested 6-3-14 Engine and boiler seatings 18-2-14 Engines holding down bolts 4-3-14 Completion of pumping arrangements 9-3-14. Boilers fixed 2-3-14. Engines tried under steam 11-3-14. Main boiler safety valves adjusted 11-3-14. Thickness of adjusting washers Star¹ valve 5/16" Port valve 3/16"

Material of Crank shaft Iron Identification Mark on Do. 116 J.H. Material of Thrust shaft Iron Identification Mark on Do. 116 J.H. Material of Tunnel shafts Iron Identification Marks on Do. 116 J.H. Material of Screw shafts Iron Identification Marks on Do. 116 J.H. Material of Steam Pipes Solid drawn copper Test pressure 240 lbs per sq inch.

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

The engines & boiler of this vessel have been built under special survey, the materials & workmanship being sound & good. The machinery has been efficiently fitted on board, tried under steam & found satisfactory. The boiler safety valves have been adjusted under steam to their working pressure, tried for accumulation & found satisfactory. In my opinion the machinery of this vessel is now eligible to be classed in the Register Book with the notation + L.M.C. 4-14.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4. 14.

The amount of Entry Fee	£ 1 : 0 : 0	When applied for,
Special	£ 8 : 0 : 0	16 th Apr. 1914.
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	21.4.14

Committee's Minute

Assigned

FRI. APR. 24. 1914

+ L.M.C. 4, 14

Surveyor's Signature

John Houston
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

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Signal Lette

Official N

1356

No., Date, and

Whether British Foreign Built

British

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Number of Ma

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No. of sets of Engines.

Description

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No. of Shafts.

Particul

One Description. Number Iron or Steel Loaded Pres

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Under Tonnage D

Space or spaces b

Turret or Trunk

Forecastle ...

Bridge space

Poop or Break

Side Houses

Deck Houses

Chart House

Spaces for machin

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1894 ...

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Gross Ton

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Registered

NOTE 1.—The tonnage

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NOTE 2.—The underme

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Managers -

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Register

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