

REPORT ON MACHINERY

No. 67703

Received at London Office

SAT 111 2-1015

Date of writing Report 26th June 1915 When handed in at Local Office 30th June 1915 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Reg. Book.

Date, First Survey 12th Dec 1913 Last Survey 23rd June 1915on the Machinery of the *SS. Prince Edward Island* Tons Gross 2795 Net 1110

Master Built at Newcastle By whom built Armstrong Whitworth & Co. When built 1914

Engines made at Newcastle By whom made Wallis & Shipway & Eng. Co. when made 1915

Boilers made at " By whom made " when made 1915

Registered Horse Power Owners Canadian Government Port belonging to Charlottetown P.E.I.

Nom. Horse Power as per Section 28 1014 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines *Triple (aft)* No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 23 $\frac{1}{2}$ " 37 $\frac{1}{2}$ " 60" Length of Stroke 39" Revs. per minute 115 Dia. of Screw shaft as per rule 12.66 Material of shaft as fitted 14 $\frac{1}{2}$ " screw shafts
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight in the propeller boss
 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'-9"
 Dia. of Tunnel shaft as per rule 11.26 Dia. of Crank shaft journals as per rule 11.82 Dia. of Crank pin 13" Size of Crank webs 8 $\frac{3}{4}$ " x 21 $\frac{1}{4}$ " Dia. of thrust shaft under collars 13 Dia. of screw 13-3 Pitch of Screw 15-3 No. of Blades 4 State whether moveable Yes Total surface 62 $\frac{1}{2}$
 No. of Feed pumps 2 Diameter of ditto 10" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 4 $\frac{1}{4}$ " Stroke 18" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 4 Sizes of Pumps 7 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " x 10, 7 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 10 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 10 of 3" In Holds, &c. no holds

No. of Bilge Injections 2 sizes 6" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2 of 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 No
 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 none How are they protected
 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 5/10/14 of Stern Tube 5/10/14 Screw shaft and Propeller 5/10/14
 Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record 8) Manufacturers of Steel J. H. Jones & Sons
 Total Heating Surface of Boilers 16230 Is Forced Draft fitted Yes No. and Description of Boilers 6 Single-ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 13/3/14 No. of Certificate 8632
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63.77 $\frac{1}{2}$ No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 11 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 Mean dia. of boilers 15-9 $\frac{1}{2}$ " Length 11-9" Material of shell plates Steel
 Thickness 1 $\frac{1}{32}$ " Range of tensile strength 29-33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap long. seams d. r. d. b. Diameter of rivet holes in long. seams 1 $\frac{1}{16}$ " Pitch of rivets 10" Lap of plates or width of butt straps 21 $\frac{3}{8}$ "
 Per centages of strength of longitudinal joint rivets 85.9 plate 85.62 Working pressure of shell by rules 211 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring flanges No. and Description of Furnaces in each boiler 3 Horizons Material Steel Outside diameter 49 $\frac{1}{8}$ "
 Length of plain part top Thickness of plates crown 5 $\frac{1}{8}$ " Description of longitudinal joint welded No. of strengthening rings
 Working pressure of furnace by the rules 202 lbs Combustion chamber plates: Material Steel Thickness: Sides 5 $\frac{1}{8}$ " Back 2 $\frac{1}{32}$ " Top 5 $\frac{1}{8}$ " Bottom 1 $\frac{1}{32}$ "
 Pitch of stays to ditto: Sides 7 $\frac{1}{2}$ " x 9 $\frac{1}{8}$ " Back 8 $\frac{1}{8}$ " x 8 $\frac{1}{8}$ " Top 7 $\frac{1}{2}$ " x 9 $\frac{1}{8}$ " If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187 lbs
 Material of stays Steel Diameter at smallest part 2.03 Area supported by each stay 76 Working pressure by rules 255 lbs End plates in steam space
 Material Steel Thickness 1 $\frac{1}{4}$ " Pitch of stays 20 $\frac{1}{2}$ " x 16 How are stays secured d. n. Working pressure by rules 189 lbs Material of stays Steel
 Diameter at smallest part 7.24 Area supported by each stay 338 Working pressure by rules 223 lbs Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 3 $\frac{3}{32}$ " Greatest pitch of stays 14" x 9 $\frac{3}{8}$ " Working pressure of plate by rules 187 lbs
 Diameter of tubes 2 $\frac{1}{2}$ " Pitch of tubes 3 $\frac{3}{4}$ " Material of tube plates Steel Thickness: Front 1" Back 3 $\frac{1}{4}$ " Mean pitch of stays 7 $\frac{1}{2}$ "
 Pitch across wide water spaces 13 $\frac{1}{4}$ " Working pressures by rules 205 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " Length as per rule 33 $\frac{3}{16}$ " Distance apart 9 $\frac{1}{4}$ " Number and pitch of stays in each 3 of 7 $\frac{1}{2}$ "
 Working pressure by rules 185 lbs 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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, 1 set of piston springs, a quantity of assorted bolts nuts & iron, 2 propeller blades, 1 set of bottom end bearings, air pump bucket & rod, head valve seat & guard, impeller & spindle propeller shaft & minor details.

The foregoing is a correct description,

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

Andrew Dunning.

Manufacturer.

DIRECTOR.

Dates of Survey while building
During progress of work in shops - - - 1913 Dec. 12, Jan. 15, 22, Feb. 6, Mar. 3, 5, 11, 13, Apr. 21, May 11, 25, Jun. 10, 15, 17, 23, 29, 30, Aug. 6, 1914
During erection on board vessel - - - 13, 18, 26, 31, Sep. 2, 10, 14, 16, 22, 24, 25, Oct. 2, 6, 19, 22, 30, Nov. 2, May 21, Jun. 21, 22, 23.
Total No. of visits 39.

Is the approved plan of main boiler forwarded herewith?

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 10/7/14 Slides 10/9/14 Covers 22/9/14 Pistons 22/9/14 Rods 25/9/14
Connecting rods 25/9/14 Crank shaft 31/8/14 Thrust shaft 30/7/14 Tunnel shafts 30/7/14 Screw shaft 30/7/14 Propeller 13/7/14
Stern tube 10/7/14 Steam pipes tested 2/11/14, 11/6/14 Engine and boiler seatings 6/10/14 Engines holding down bolts 19/11/14
Completion of pumping arrangements 21/5/15 Boilers fixed 22/10/14 Engines tried under steam 28/1/15 FPPX 5 1/2
Main boiler safety valves adjusted 28/1/15 Thickness of adjusting washers AS F 3/4 A 3/8 PA 1/4 F 3/8 MS F 7/8 A 3/8 PF 3/4 A 3/8 FSP 3/8 5/16
Material of Crank shaft Steel Identification Mark on Do. 31/8/14 16/9/14 66 Material of Thrust shaft Steel Identification Mark on Do. 30/7/14 66
Material of Tunnel shafts Steel Identification Marks on Do. 31/8/14 16/9/14 66 Material of Screw shafts Steel Identification Marks on Do. 30/7/14 66
Material of Steam Pipes Lap welded iron Test pressure 540 lbs.

Is an installation fitted for burning oil fuel

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

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

The machinery of this vessel has been built under special survey, the materials used are good and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under full power.

In my opinion this vessel is eligible for the record of L.M.C. 6, 15.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6, 15. F.D.

The amount of Entry Fee ... £ 3 : : : When applied for, JUN 17 1915
Special ... £ 70 : 14 : : : When received, JUN 19 1915
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : :
TUE. JUL. 6 - 1915

Committee's Minute

Assigned

Charles Cooper
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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