

REPORT ON MACHINERY.

Date of writing Report 19 DEC 1914 Port of LIVERPOOL Received at London Office WED. DEC. 23. 1914

No. in Survey held at Birkenhead Date, First Survey 15 Oct. 13 Last Survey 1.0 Dec 1914

Reg. Book. on the Twin screw steamer "Ciudad de Buenos Aires" (Number of Visits 98)

Master Built at Birkenhead By whom built Cammell Laird & Co. Ltd. When built

Engines made at Birkenhead By whom made Cammell Laird & Co. Ltd. when made 1914

Boilers made at Birkenhead By whom made Cammell Laird & Co. Ltd. when made 1914

Registered Horse Power 755 Owners not for Reg. Bk. Port belonging to

Nom. Horse Power as per Section 28 755 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Geared Turbines twin screws No. of Cylinders 2 H.P. 2 L.P. No. of Cranks 2

Dia. of Cylinders 1'-5 1/2" 1" EXP. Length of Stroke ✓ Revs. per minute 260 Dia. of Screw shaft as per rule 10 1/2" Material of screw shaft steel

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 no

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 3'-10 1/2"

Dia. of Tunnel shaft as per rule 9" Dia. of Crank shaft journals as per rule 9 1/2" Dia. of Crank pin ✓ Size of Crank webs ✓ Dia. of thrust shaft under collars 9 1/2"

Dia. of screw 8'-6" Pitch of Screw 8'-8" No. of Blades 3 State whether moceable No Total surface 33.8 sq ft

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 2 Diameter of ditto 7 1/2" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines See list Sizes of Pumps 5 1/2" x 12" General No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3" dia. In Holds, &c. No. I one 3" d. No. II one 3" d. No. III one 3" d.

No. of Bilge Injections 2 sizes 4" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size ✓

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 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 8-5-14 of Stern Tube 12-5-14 Screw shaft and Propeller 12-5-14

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from deck

BOILERS, &c.—(Letter for record (5)) Manufacturers of Steel N. & D. Lloyds and Steel Co. of Scotland

Total Heating Surface of Boilers 9892 Is Forced Draft fitted yes No. and Description of Boilers 4 multitubular

Working Pressure 170 lbs. Tested by hydraulic pressure to 340 lbs. Date of test 4/14 No. of Certificate 1987

Can each boiler be worked separately yes Area of fire grate in each boiler 65 3/4 No. and Description of Safety Valves to each boiler 2, spring loaded

Area of each valve 11.04 Pressure to which they are adjusted 175 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Mean dia. of boilers 15'-0" Length 11'-0" Material of shell plates steel

Thickness 5/32 Range of tensile strength 28 tons Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams D.R.

long. seams T.R. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 3/8 x 4 1/16 Lap of plates or width of butt straps 17 9/16

Per centages of strength of longitudinal joint rivets 87.6 Working pressure of shell by rules 172 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 9" x 1 3/16 No. and Description of Furnaces in each boiler 3 horizontal Material steel Outside diameter 4'-2"

Length of plain part top 9 1/16 Thickness of plates bottom 9 1/16 Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 176 lbs. combustion chamber plates: Material steel Thickness: Sides 9 1/16 Back 9 1/16 Top 9 1/16 Bottom 1"

Pitch of stays to ditto: Sides 7 1/4 x 7 1/2 Back 8 1/2 x 7 1/4 Top 7 1/4 x 7 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 174 lbs.

Material of stays steel Diameter at smallest part 1-3 3/8 Area supported by each stay 61.62 Working pressure by rules 188 lbs. End plates in steam space

Material steel Thickness 15 Pitch of stays 15 1/2 x 15 How are stays secured nuts Working pressure by rules 173 lbs. Material of stays steel

Diameter at smallest part 2 1/4 Area supported by each stay 240.2 Working pressure by rules 172 lbs. Material of Front plates at bottom steel

Thickness 29 Material of Lower back plate steel Thickness 29 Greatest pitch of stays 13 5/8 x 6 Working pressure of plate by rules 258 lbs.

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plates steel thickness: Front 29/32 Back 3/4 Mean pitch of stays 8 3/4

13.16.74.75.76
19.77.78.79
3.4.77.8.10.11
Dec 24.5.9
Visits 138

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - One set of coupling bolts, one set of feed and bilge pump valves, assorted bolts nuts and wing washers sizes. One screw shaft one after stop tube bush and one cast iron propeller. 1/20" set of blading material. 80 condenser tubes and 100 ferrules. 12 bolts & nuts for each turbine casing joint. 24 boiler tubes

The foregoing is a correct description,

CAMMELL LAIRD & COMPANY LIMITED.

J. B. Laird Manufacturer.

Dates of Survey while building: During progress of work in shops, During erection on board vessel, Total No. of visits 98. Is the approved plan of main boiler forwarded herewith Yes

CASINGS ROTORS donkey. Dates of Examination of principal parts: Cylinders 20-10-13, Shafts 26, 11, 13, Cores 23, 12, 13, Pistons 5, 3, 14, Rods 2, 4, 14. Connecting rods 31-12-1, Rank shaft 25-3-1, Thrust shaft 27-1-14, Tunnel shafts 6-4-14, Screw shaft 12-5-14, Propeller 6-5-14.

Stern tube 27-4-14, Steam pipes tested 10-3-14, Engine and boiler seatings 22-5-14, Engines holding down bolts 25-7-14, Completion of pumping arrangements 22-5-14, Boilers fixed 18-6-14, Engines tried under steam 12th to 14th Sept. 1914.

Main boiler safety valves adjusted 17-7-14, Thickness of adjusting washers see below. Material of Rank shaft steel, Identification Mark on Do. 618, Material of Thrust shaft steel, Identification Mark on Do. 576.

Material of Tunnel shafts steel, Identification Marks on Do. 5714, Material of Screw shafts steel, Identification Marks on Do. 310, 11. Material of Steam Pipes lap welded iron, Test pressure 5-10 lbs.

Is an installation fitted for burning oil fuel yes, Is the flash point of the oil to be used over 150°F. 150°.

Have the requirements of Section 49 of the Rules been complied with, approved to per Sect letter E 9, 11, 14.

Is this machinery duplicate of a previous case no, If so, state names of vessel.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under Special Survey and in accordance with the approved plans herewith enclosed. The materials and workmanship are of a good quality and when tried under steam were found satisfactory in every respect and are eligible in my opinion for the notification in the Register Book.

Table with 4 columns: Port, Post, Valve size, and another Valve size. Rows include Post 4th Boiler, Post after Boiler, and Std.

It is submitted that this vessel is eligible for THE RECORD + LMC. 12. 14. F.D.

4 Steam Turbines geared to 2 screw shafts. Fitted for oil fuel 12-14. F.P. above 150°F.

The amount of Entry Fee £ 3 : 0 : Special £ 57 : 15 : Donkey Boiler Fee £ : : Travelling Expenses (if any) £ : :

When applied for, 22 DEC 1914, When received, 11 DEC 1914. John Dykes & W. G. McNeil, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Assigned - C.M.C. 12:14. F.D.

Rpt. 13.

REP

Port of LIV, No. in Reg. Book 1212, Owners The Anglo Yard No. 801

DESCRIPTION OF Two sets each compound, Capacity of Dynamo, Where is Dynamo, Position of Main, Positions of auxilia

If fuses are fitted circuits Yes, If vessel is wired on, Are the fuses of no, Are all fuses fitted are permanent, Are all switches and, Total number of light, A 88 F 120, B 68 G 104, C 104 H 136, D 41 J 62, E 178 K 60

2 Must head, 2 Side, 8 blusters, If arc lights, what p, Where are the swit

DESCRIPTION OF Main cable carrying, Branch cables carrying, Branch cables carrying, Leads to lamps carry, Cargo light cables carry

DESCRIPTION OF Conductor, Vulcanised, Joints in cables, how

Are all the joints of positions, none, Are there any joints, How are the cables, Galvanised

Certificates (if required) to be sent to

