

REPORT ON MACHINERY.

Received at London Office

WED. MAR. 17. 1915

Date of writing Report 18-2-15 Port of Hull
 No. in Survey held at Hull Date, First Survey Oct 6-14 Last Survey Feb 15-1915
 Reg. Book. SUPP 72 on the S.T. ST. DENIS. (Number of Visits 43)
 Master Built at Selby By whom built Cockrane
 Engines made at Hull By whom made C.D. Holmes & Co. Ltd. (No. 1063) when made 1915-2
 Boilers made at do By whom made do when made 1915 2
 Registered Horse Power ✓ Owners Thomas Hamling & Co. Ltd. Port belonging to Hull
 Nom. Horse Power as per Section 28 78 ✓ Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted yes ✓

Gross 294
 Net 128
 When built 1915

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13.23 x 34 Length of Stroke 24 Revs. per minute Dia. of Screw shaft as per rule 7.45 Material of screw shaft Iron
 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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 2-11/2 ✓
 Dia. of Tunnel shaft as per rule 6.616 Dia. of Crank shaft journals as per rule 6.94 Dia. of Crank pin 7.25 Size of Crank webs 4 3/8 x 14 3/8 Dia. of thrust shaft under collars 7 1/4 Dia. of screw 9-1/2 Pitch of Screw 11-0 No. of Blades 4 State whether moveable no Total surface 30 ft ✓
 No. of Feed pumps one Diameter of ditto 2 1/4 Stroke 24 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2 1/4 Stroke 24 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one & 2 1/2 Sizes of Pumps 6 x 3 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" dia In Holds, &c. Four fore peak fore slushwell aft slushwell, fore room. (all suction connected to ejector)
 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 2 1/2 EJECTOR.
 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 forward suction How are they protected wood & iron plates ✓
 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 17-11-14 of Stern Tube 17-11-14 Screw shaft and Propeller 16-11-14 ✓
 Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Stewart & Lloyd ✓
 Total Heating Surface of Boilers 1290 ft Is Forced Draft fitted no No. and Description of Boilers one single ended ✓
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 15-12-14 No. of Certificate 3048 ✓
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 48 ft No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 4.9 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes ✓
 Smallest distance between boilers or uptakes and bunkers or woodwork 4 Mean dia. of boilers 159 1/16 Length 10-6 Material of shell plates S
 Thickness 1 3/32 Range of tensile strength 28 TO 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DOUBLE long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 6 7/8 Lap of plates or width of butt straps 15 3/8 ✓
 Per centages of strength of longitudinal joint rivets 88.2 Working pressure of shell by rules 180 lb Size of manhole in shell 12 x 16 ✓
 Size of compensating ring 7 x 1 1/16 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 38 ✓
 Length of plain part top 18.5 bottom 16.5 Thickness of plates crown 2 3/32 Description of longitudinal joint welded No. of strengthening rings one pt ✓
 Working pressure of furnace by the rules 180 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 2 3/32 Top 1/16 Bottom 1/16 ✓
 Pitch of stays to ditto: Sides 10 1/2 x 8 1/4 Back 11 x 8 1/2 Top 10 1/2 x 8 1/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184 ✓
 Material of stays S Diameter at smallest part 2.07 Area supported by each stay 93.5 Working pressure by rules 199 End plates in steam space
 Material S Thickness 1 5/32 Pitch of stays 19 x 18 How are stays secured DN&W Working pressure by rules 185 Material of stays S ✓
 Diameter at smallest part 6.33 Area supported by each stay 342 Working pressure by rules 192 Material of Front plates at bottom S ✓
 Thickness 7/8 Material of Lower back plate S Thickness 2 1/32 Greatest pitch of stays 14 x 8 3/4 Working pressure of plate by rules 180 ✓
 Diameter of tubes 3 1/2 Pitch of tubes 5 1/2 x 5 Material of tube plates S Thickness: Front 7/8 Back 7/8 Mean pitch of stays 10 1/2 ✓
 Pitch across wide water spaces 14 Working pressures by rules 249 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 1/4 x 1 3/4 Length as per rule 35 7/16 Distance apart 10 1/2 Number and pitch of stays in each 3 at 8 1/4 ✓
 Working pressure by rules 194 Superheater or Steam chest; how connected to boiler ✓ 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? **NO** ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed, bilge & air pump valves, one safety valve spring, one main and one donkey feed check valve, and a quantity of bolts & nuts & iron of assorted sizes, 4 tube stoppers.*

The foregoing is a correct description,
P. PRO CHARLES D. HOLMES & CO. LTD.

Arthur Holmes DIRECTOR.

Manufacturers.

Dates of Survey while building: During progress of work in shops - 14/14: Oct 6, 19, 20, 26, 28, 30 Nov 3, 5, 9, 11, 14, 16, 17, 18, 19, 23, 25, 27, 30, 31 Dec 3, 7, 10, 14, 15
During erection on board vessel - 18, 22, 24, 30, 1915: Jan 2, 6, 9, 15, 19, 23, 27, 28, 29 Feb 1, 3, 9, 10, 15
Total No. of visits 43

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

Is the approved plan of donkey boiler forwarded herewith **yes** ✓

Dates of Examination of principal parts—Cylinders 31-11-14 Slides 22-12-14 Covers 31-12-14 Pistons 10-12-14 Rods 2-1-15.

Connecting rods 9-1-15 Crank shaft 19-11-14 Thrust shaft 18-12-14 Tunnel shafts ✓ Screw shaft 16-11-14 Propeller 16-11-14

Stern tube 14-11-14 Steam pipes tested 29-1-15 Engine and boiler seatings 14-11-14 Engines holding down bolts 23-1-15.

Completion of pumping arrangements 10-2-15 Boilers fixed 29-1-15 Engines tried under steam 1-2-15.

Main boiler safety valves adjusted 10-2-15 Thickness of adjusting washers *ford 5/16", A 3/8"*

Material of Crank shaft *Iron* Identification Mark on Do. *1394 F.L.S.* Material of Thrust shaft *S* Identification Mark on Do. *1406 F.L.S.*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *1392 F.L.S.*

Material of Steam Pipes *Solid drawn copper* ✓ Test pressure *400 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 **no** ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under precise survey in accordance with the approved plan & rules of this Society, the material and workmanship are good, the boiler and steam pipe have been tested as above & found sound and good, the machinery has been properly fitted and secured on board & on completion was tried under steam and found to work satisfactorily, the safety valves have been adjusted under steam & tested for accumulation. In my opinion the vessel is eligible for record of +LMC 2-15*

It is submitted that this vessel is eligible for THE RECORD + LMC 2.15.

The amount of Entry Fee ... £ 1 : - : When applied for,
Special ... £ 11 : 14 : 15-3-1915
Donkey Boiler Fee ... £ : : : When received,
Travelling Expenses (if any) £ : 8/2 : 31 Mar 1915 1/4/15

W.N. Roberts
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. MAR. 19. 1915

Assigned *+ LMC 2.15*



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