

REPORT ON MACHINERY.

No. 34127

Received at London Office

Date of writing Report 10. 6. 1914 When handed in at Local Office 13. 6. 1914 Port of Glasgow WED. JUN. 17. 1914

No. in Survey held at Glasgow Date, First Survey 17. 12. 13 Last Survey 9. 6. 1914
 Reg. Book. 26 Sup on the (Number of Visits 22)

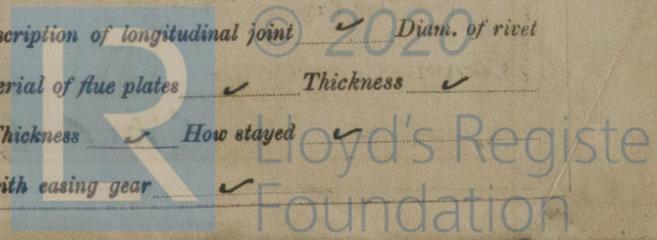
Master A. Poole Built at Campbelltown By whom built Campbelltown S.B. Co. (No 99) When built 1914
 Engines made at Glasgow By whom made Ross & Duncan (No 965) when made 1914
 Boilers made at do. By whom made do. (Nos 1456-7) when made 1914
 Registered Horse Power _____ Owners Bristol Steam Navigation Co Ltd. Port belonging to Bristol
 Nom. Horse Power as per Section 28 129 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple expansion Surf. Condg No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 15" 25 1/2" 41" Length of Stroke 30" Revs. per minute 111 Dia. of Screw shaft as per rule 8 1/8" 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 2'-10"
 Dia. of Tunnel shaft as per rule 4 1/8" Dia. of Crank shaft journals as per rule 8 1/8" Dia. of Crank pin 8 1/2" Size of Crank webs 5 3/8" x 6 1/2" Dia. of thrust shaft under collars 8 1/2" Dia. of screw 10'-0" Pitch of Screw 12'-0" No. of Blades 4 State whether moveable No Total surface 367 sq ft
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 5" x 3 1/2" x 6" Duplex Gen. Service No. and size of Suctions connected to both Bilge and Donkey pumps 4" x 4" x 8" Duplex Ballast
 In Engine Room 4 - 2" ; 1 - 2 1/2" special In Holds, &c. 2 - 2" for, 1 - 2 1/2" aft, 1 - 2 1/2" tunnel well.
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room of size Yes - 2 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 None
 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 for a big steam pipe 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
 Dates of examination of completion of fitting of Sea Connections See Greenock Report of shaft and Propeller
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from E. R. Upper deck level

BOILERS, &c.—(Letter for record 1) Manufacturers of Steel David Colville & Sons Ltd.

Total Heating Surface of Boilers 2386 sq ft Forced Draft fitted Yes No. and Description of Boilers 2 - S.E. Marine
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 4. 5. 1914 No. of Certificate 12695
 Can each boiler be worked separately Yes Area of fire grate in each boiler 39 1/2 sq ft No. and Description of Safety Valves to each boiler Pair spring loaded Area of each valve 3.94 sq in 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 3'-3" Mean dia. of boilers 11'-6" Length 10'-6" Material of shell plates Steel
 Thickness 31/32" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1/8" Pitch of rivets 6 7/8" Lap of plates or width of butt straps 1'-5 1/2"
 Per centages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12" plate 83.6
 Size of compensating ring 4" x 3 1/2" No. and Description of Furnaces in each boiler 2 - Duglin Material Steel Outside diameter 3'-10 1/4"
 Length of plain part top _____ bottom _____ Thickness of plates crown 9/16" Description of longitudinal joint weld No. of strengthening rings _____ bottom _____
 Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 11/16"
 Pitch of stays to ditto: Sides 8 3/4" x 4 3/4" Back 8 3/4" x 8 3/4" Top 4 3/4" x 8 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186 lbs
 Material of stays Steel Diameter at smallest part 1.46 in Area supported by each stay 1/2 sq ft Working pressure by rules 187 lbs End plates in steam space: Material Steel Thickness 3/32" Pitch of stays 15 1/2" x 15 1/2" How are stays secured D.N.G.W. Working pressure by rules 180 lbs Material of stays Steel Diameter at smallest part 4.43 in Area supported by each stay 246 sq in Working pressure by rules 186 lbs Material of Front plates at bottom Steel Thickness 27/32" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 12" x 14" Working pressure of plate by rules 350 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" x 4 1/4" Material of tube plates Steel Thickness: Front 27/32" Back 3/4" Mean pitch of stays 8 3/4" x 8 1/2"
 Pitch across wide water spaces 1'-2" Working pressures by rules 187 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 4 1/2" x 2 1/4" Length as per rule 2'-6 5/8" Distance apart 8 1/2" Number and pitch of stays in each 3 - 4 1/2" x 8 1/2"
 Working pressure by rules 209 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 _____

W439-0010



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 Sc _____

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:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main beam bolts & nuts, 1 set coupling bolts, 1 set feed and high pump valves, 1 propeller, 12 joint ring studs, quantity assorted bolts & nuts and rim of various sizes.

The foregoing is a correct description,

Ross Duncan Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1913. Dec 17-27. 1914 Jan 7-21-27. Feb 10-23. March 5-12-23-31. Apr 7-17.

{ During erection on board vessel -- } May 4-11-13-19-21-22-26-28. June 9.

Total No. of visits 22

Is the approved plan of main boiler forwarded herewith Yes ✓

Dates of Examination of principal parts—Cylinders 23. 3. 14 Slides 31. 3. 14 Covers 31. 3. 14 Pistons 31. 3. 14 Rods 31. 3. 14

Connecting rods 31. 3. 14 Crank shaft 31. 3. 14 Thrust shaft 31. 3. 14 Tunnel shafts 31. 3. 14 Screw shaft 4. 4. 14 Propeller 4. 4.

Stern tube 4. 4. 14. Steam pipes tested 21. 5. 14 Engine and boiler seatings 22. 5. 14 Engines holding down bolts 22. 5.

Completion of pumping arrangements 28. 5. 14. Boilers fixed 22. 5. 14 Engines tried under steam 9. 6. 14.

Main boiler safety valves adjusted 28. 5. 14 Thickness of adjusting washers Port p 5/16 s. 9/32; Star. p 5/16 s. 9/32

Material of Crank shaft Steel Identification Mark on Do. No 6860 F.A.F. Material of Thrust shaft iron Identification Mark on Do. No 6860 F.A.F.

Material of Tunnel shafts Iron Identification Marks on Do. No 6883 F.A.F. Material of Screw shafts iron Identification Marks on Do. No 6860 F.A.F.

Material of Steam Pipes Copper Test pressure 360lbs. ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. The machinery and boilers of this vessel have been constructed under special survey in accordance with the Rules and approved plans, securely fitted aboard and tried, with satisfactory results under steam and are, in my opinion, suitable for classification with record + L.M.C. 6, 14.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6, 14.

J.W.D. 18/6/14

P.J. Brown

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

The amount of Entry Fee .. £ 2-0-0 When applied for, _____

Special .. £ 19-4-0 15/6/14

Donkey Boiler Fee .. £ : : When received, _____

Travelling Expenses (if any) £ : : 19. 6. 14

Committee's Minute GLASGOW 16 JUN. 1914

Assigned + L.M.C. 6, 14

GLASGOW

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