

REPORT ON MACHINERY.

No. 31636

Received at London Office

WED. JUL. 10. 1912

Date of writing Report 19 When handed in at Local Office 6.7.12 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 6.4.11. Last Survey 5.7.1912
 Reg. Book. S/S "Intoumbi" (Number of Visits 69)
 on the Master Built at Glasgow By whom built Messrs. Hamilton & Co. Tons Gross 2884 Net 2504
 Engines made at Glasgow By whom made Dunsmuir Jackson & Co. when made 1912
 Boilers made at ditto By whom made ditto when made 1912
 Registered Horse Power Owners J.F. Harrison Port belonging to Liverpool
 Nom. Horse Power as per Section 28 364 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 22-34 62 Length of Stroke 48 Revs. per minute 45 Dia. of Screw shaft as per rule 13.9 Material of screw shaft as fitted 14 1/2
 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 No 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 No If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4-10
 Dia. of Tunnel shaft as per rule 12.5 Dia. of Crank shaft journals as per rule 13-1 Dia. of Crank pin 13 3/4 Size of Crank webs 26 x 9 Dia. of thrust shaft under collars 13 1/2 Dia. of screw 16.9 Pitch of Screw 17.0 No. of Blades 4 State whether moveable Yes Total surface 87.5
 No. of Feed pumps 2 Diameter of ditto 3 3/4 Stroke 26 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 4 x 4 1/2 x 8 Ball 10 x 10 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4-3 1/2 In Holds, &c. 2-3 1/2 in each hold
 Funnel 2 1/2 - 3
 No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 Both
 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 Yes
 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 Report of Stern Tube Report Screw shaft and Propeller Report
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from UER Platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel & Co of Scotland James & Co
 Total Heating Surface of Boilers 6255 Is Forced Draft fitted No No. and Description of Boilers 3 Single Ended
 Working Pressure 215 Tested by hydraulic pressure to 430 Date of test 29-11-11 No. of Certificate 11302
 Can each boiler be worked separately Yes Area of fire grate in each boiler 57.4 No. and Description of Safety Valves to each boiler Double Spring Area of each valve 5.9 Pressure to which they are adjusted 220 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 1-6 Mean dia. of boilers 15-1 3/4 Length 11.9 Material of shell plates S
 Thickness 1 3/16 Range of tensile strength 29-32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams DR long. seams TR & DBS Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 10 1/2 Lap of plates or width of butt straps 1-11 1/2
 Per centages of strength of longitudinal joint rivets 84-64 plate 85 Working pressure of shell by rules 233 Size of manhole in shell 16 x 12
 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 3 corrugated Material S Outside diameter 3-10
 Length of plain part top Thickness of plates crown 1 1/16 Description of longitudinal joint weld No. of strengthening rings
 Working pressure of furnace by the rules 239 Combustion chamber plates: Material S Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 1 1/16
 Pitch of stays to ditto: Sides 9 1/2 x 8 1/4 Back 8 x 9 1/2 Top 8 1/2 x 8 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 216
 Material of stays S Diameter at smallest part 2 7/8 3 1/4 Area supported by each stay 78 Working pressure by rules 226 End plates in steam space: Material S Thickness 13/16 Pitch of stays 18 1/4 x 15 1/2 How are stays secured DN Working pressure by rules 221 Material of stays S Diameter at smallest part 6.9 Area supported by each stay 283 Working pressure by rules 241 Material of Front plates at bottom S Thickness 1 3/32 Material of Lower back plate S Thickness 1 Greatest pitch of stays 15 x 9 1/2 Working pressure of plate by rules 233
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 9/16 Material of tube plates S Thickness: Front 15/32 Back 29/32 Mean pitch of stays 11 1/32
 Pitch across wide water spaces 14 3/16 Working pressures by rules 230 Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 11 x 1 (2) Length as per rule 3-6 Distance apart 8 3/4 Number and pitch of stays in each 4 at 8 1/2 Working pressure by rules 220 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

If not, state whether, and when, one will be sent. If a Report also sent on the Hull of the Ship.

Lloyd's Register Foundation

002352-002361-0011

VERTICAL DONKEY BOILER— Manufacturers of Steel *None*

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: — *2 Connecting Rod bolts 1 1/2" dia for bottom end ditto for top end 2 Main Bearing bolts 1 set of coupling bolts 1 set of Feed Bridge Pump Valves 1 set of Piston Rings. a quantity of assorted bolts nuts iron of various sizes 1 Propeller Shaft a number of studs for Propeller Box 1 Air Pump Rod &c*

The foregoing is a correct description,
FOR DUNSMUIR & JACKSON, Limited
James Fletcher Manufacturer.

Manager

Dates of Survey while building { During progress of work in shops -- 1911. April 6. 10. 19. 28. May 2. 16. 24. 29. 31. June 7. 19. 26. 30. July 6. 26. 31. Aug 7. 21. 31. Sept 7. 11. 26.
 { During erection on board vessel --- Oct. 10. 17. 24. 30. Nov. 7. 9. 13. 16. 20. 25. 29. Dec 4. 5. 15. 19. 20. 1912. Jan. 8. 11. 17. 29. Feb. 6. 12. 15. 20. 27. 27. March 7. 12. 18. 27. 29. April 1. 3. 4. 12. 15. 19. 24. May 2. 6. 9. 28. June 10. 17. 24. 26. 27.
 Total No. of visits *69* July 5. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *20-2-12* Slides *24 2-12* Covers *20-2-12* Pistons *20-2-12* Rods *12. 2-12*
 Connecting rods *12-2-12* Crank shaft *12-2-12* Thrust shaft *11-1-12* Tunnel shafts *20-11-11* Screw shaft *3-4-12* Propeller *6-5-12*
 Stern tube *6-5-12* Steam pipes tested *17-6-12* Engine and boiler seatings *Report* Engines holding down bolts *24. 6-12*
 Completion of pumping arrangements *24 6-12* Boilers fixed *10-6-12* Engines tried under steam *5-7-12*
 Main boiler safety valves adjusted *26-6-12* Thickness of adjusting washers *F 7/16 A 13/32 P 1/2 S 15/32 P 7/16 S 13/32*
 Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS W.G.M. 400* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYDS W.G.M. 400*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *ditto* Material of Screw shafts *ditto* Identification Marks on Do. *ditto*
 Material of Steam Pipes *Iron* Test pressure *645*

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers have been built under Special Survey in accordance with the approved plan & the workmanship and material are of good quality. The Machinery is eligible in my opinion for the record of L.M.C. 4-12.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7.12
JUR. 11/7/12

Certificate (if required) to be sent to _____

The amount of Entry fee .. £ 3 : - :
 Special .. £ 38 : 4 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *26-6-12*
 When received, *28-6-12*

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

Committee's Minute **GLASGOW 9-JUL 1912**
 Assigned *+ L.M.C. 7.12*

