

REPORT ON MACHINERY.

Port of Glasgow

Received at London Office JULY 31 MAY 1898

No. in Survey held at Glasgow Date, first Survey 7 February Last Survey 25 May 1898
Reg. Book. (Number of Visits 11)

on the Screw Steamer "Jaboo" Tons ^{Gross} _{Net}
Master B. Brett Built at Manlyport By whom built Ritson & Co When built 1898

Engines made at Glasgow By whom made Ross & Dunnean when made 1898

Boilers made at Glasgow By whom made Ross & Dunnean when made 1898

Registered Horse Power Owners Liverpool Steam Tug Co. Limited Port belonging to Liverpool

Nom. Horse Power as per Section 28 54 Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three

Diameter of Cylinders 12"-19 1/2"-32" Length of Stroke 22" Revolutions per minute 115 Diameter of Screw shaft 6 1/2"
Diameter of Tunnel shaft 6" Diameter of Crank shaft journals 6 1/2" Diameter of Crank pin 6 1/2" Size of Crank webs 11 1/2" x 4 1/2"

Diameter of screw 8' 3" Pitch of screw 10' 1/2" No. of blades 4 State whether moveable No Total surface 2559 sq ft

No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓

To. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓

To. of Donkey Engines one Sizes of Pumps 4 1/2" x 2 1/2" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Two: - 2" dia" & 1 1/2" dia" in Holds, &c. one: - 2" dia" also 1 1/2" dia" suction

To. of bilge injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump C.P. 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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel Is the screw shaft tunnel watertight ✓

Is it fitted with a watertight door worked from

BOILERS, &c.— (Letter for record \$) Total Heating Surface of Boilers 9895 sq ft Is forced draft fitted No

No. and Description of Boilers one: by the name of Superheater Working Pressure 140 lbs Tested by hydraulic pressure to 240 lbs

Date of test 4/5/98 Can each boiler be worked separately ✓ Area of fire grate in each boiler 33 sq ft No. and Description of safety valves to each boiler Two: Direct Spring Area of each valve 2 1/2" Pressure to which they are adjusted 145 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork About 6" Mean diameter of boilers 10' 10 1/2"

Length 10' 0" Material of shell plates Steel Thickness 7/8" Description of riveting: circum. seams Lap double long. seams Butt straps

Diameter of rivet holes in long. seams 7/8" Pitch of rivets 6 3/8" 3 3/8" 13 3/4"

Percentages of strength of longitudinal joint 86% Working pressure of shell by rules 180 lbs Size of manhole in shell 10" x 11 1/2"

Size of compensating ring 6 1/2" x 7 1/2" No. and Description of Furnaces in each boiler 2: plain Material Steel Outside diameter 41"

Length of plain part 6' 2" Thickness of plates 3/4" Description of longitudinal joint Welded No. of strengthening rings partial at bottom

Working pressure of furnace by the rules 184 lbs Combustion chamber plates: Material Steel Thickness: Sides 7/8" Back 7/8" Top 7/8" Bottom 3/4"

Pitch of stays to ditto: Sides 8 x 8" Back 8 x 8" Top 8 x 8" If stays are fitted with nuts or riveted heads Nuts & washers Working pressure by rules 147 lbs

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 64" Working pressure by rules 185 lbs End plates in steam space: Material Steel Thickness 3/32" Pitch of stays 15 x 15" How are stays secured By nuts & washers Working pressure by rules 144 lbs Material of stays Steel

Diameter at smallest part 2 1/2" Area supported by each stay 225" Working pressure by rules 184 lbs Material of Front plates at bottom Steel

Thickness 3/32" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 14" Working pressure of plate by rules 142 lbs

Diameter of tubes 3/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 3/32" Back 7/8" Mean pitch of stays 9' 8"

Pitch across wide water spaces 14" Working pressures by rules 215 lbs 168 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 4' x 2 1/2" Length as per rule 31" Distance apart 8" Number and pitch of Stays in each 3: 8"

Working pressure by rules 193 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

Is it 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

DONKEY BOILER— Description *None fitted.*
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers c
 enter the donkey boiler _____ Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
 Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____
 joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *10 Condenser tubes, 2 main Bearing Bolt nuts, 2 Crosshead Bolt nuts, 2 Crank pin Bolt nuts, 1 set Coupling Bolt nuts, 1 set piston Sprung, 1 set Feed & Bilge pump valves, Both the size of various sizes, 1 set Air & Dirty pump valves, propeller, main & Key Chest.*
 The foregoing is a correct description,
John Duncan Manufacturer.

Dates of Survey while building
 During progress of work in shops— } 1898: Feb. 7. 14. 23. Mar. 9. 14. 18. 25. 31. Apr. 5. 20. 27. May. 4. 9. 20. 21. 24. 25.
 During erection on board vessel— }
 Total No. of visits *seventeen*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines and Boiler of this vessel have been built under special survey and the materials and workmanship are good. When completed they were examined under full steam and worked satisfactorily.

*The machinery throughout is now in good and efficient condition and reliable in my opinion to have the notation **L.M.C. 5, 98.** marked in the Register Book.*

The pipes from the Refrigerating Machine to the Cold Storage Chamber require to be completed and cared in where care through the Bunkers; and the fittings of the Electric Light to be completed and the installation tried. It is stated that this work will be done at Liverpool, and it is recommended that the vessel be surveyed on completion of the Electric Installation to ascertain if there be any deviation of the Compasses when electric lights are in use.

The Liverpool Surveyors have been advised and asked to see the above mentioned work completed.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5, 98. Elec. Light

Certificate (if required) to be sent to the Registrar of Shipping (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee.. £ 1 : :
 Special £ 8 : 11 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ 1 : - :
 Total £ 10 : 11 : -

When applied for, 27. 5. 98
 When received, 31. 5. 98
 J.S.
 13. 6. 98
John Austin
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned
 TUES. 14 JUN 1898
 WRITTEN
 + L.M.C. 5, 98
 Lloyd's Register Foundation