

# REPORT ON MACHINERY.

No. 11899

Port of Glasgow

MON. 21 NOV 1892

Received at London Office

No. in Survey held at Glasgow Date, first Survey 23<sup>rd</sup> May 1892 Last Survey 18<sup>th</sup> November 1892  
 Reg. Book. S. S. Yourcoing (Number of Visits 23)  
 on the S. S. Yourcoing  
 Master J. H. Lindale Built at Glasgow By whom built Mackie & Thomson Tons { Gross 548  
 Engines made at Glasgow By whom made Muir & Houston when made 1892 Net 299  
 Boilers made at Do. By whom made Do. when made 1892  
 Registered Horse Power 70 Owners Weatherley Mead & Mussey Port belonging to London  
 Nom. Horse Power as per Section 28 70

ENGINES, &c.— Description of Engines Inverted Direct Acting Triple Expansion No. of Cylinders Three  
 Diameter of Cylinders 13 1/2, 22, 34 Length of Stroke 24 Revolutions per minute 102 Diameter of Screw shaft as per rule 6.36  
 Diameter of Tunnel shaft as per rule 6 Diameter of Crank shaft journals 6 1/2 Diameter of Crank pin 6 3/4 Size of Crank webs 4 1/4 x 7 3/4  
 Diameter of screw 10-0 Pitch of screw 10-6 No. of blades Four State whether moveable No Total surface 25 sq ft  
 No. of Feed pumps One Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work   
 No. of Bilge pumps One Diameter of ditto 2 3/4 Stroke 12 Can one be overhauled while the other is at work   
 No. of Donkey Engines Two Sizes of Pumps Feed 5 1/2" x 2 1/2" pumps x 4 strokes No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three 2 1/2" In Holds, &c. Aft hold one 2 1/2" dia. Fore hold two 2 1/2"  
Yarnal one 2" dia. Aft tank one 3" Aft Peak one 2" Fore Peak one 2 1/2"  
 No. of bilge injections One sizes 3 1/4" dia. Connected to condenser circulating pump  Is a separate donkey suction fitted in Engine room & size Yes, 3" dia.  
 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 Yes  
 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 Before launching Is the screw shaft tunnel watertight Yes  
 Is it fitted with a watertight door Yes worked from Engine room upper platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1290 sq ft  
 No. and Description of Boilers One, Cylind. Mult. Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs.  
 Date of test 19-10-92 Can each boiler be worked separately  Area of fire grate in each boiler 42 sq ft No. and Description of safety valves to  
 each boiler Two - Direct springs Area of each valve 4.9 sq in Pressure to which they are adjusted 160 lbs. Are they fitted  
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean diameter of boilers 11-7"  
 Length 10-6" Material of shell plates Steel Thickness 1" Description of riveting: circum. seams Lap-double long. seams Butt-three rows  
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 16 1/2" butt strap  
 Percentages of strength of longitudinal joint rivets 86 Working pressure of shell by rules 170 lbs. Size of manhole in and 16 x 12  
 plate 85.3 Size of compensating ring 2-5 sq x 1 thick No. and Description of Furnaces in each boiler Two-ribbed Material Steel Outside diameter 45"  
 Length of plain part top 7-6 inches Thickness of plates 17/32" Description of longitudinal joint Weld No. of strengthening rings 1  
 bottom 7-6 inches Working pressure of furnace by the rules 168 lbs. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 11/16"  
 Pitch of stays to ditto: Sides 7 3/4" Back 7 3/4" Top 8 x 7 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbs.  
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 60 sq in Working pressure by rules 164 lbs. End plates in steam space:  
 Material Steel Thickness 15/16" Pitch of stays 16" How are stays secured Nuts Working pressure by rules 200 lbs. Material of stays Steel  
 Diameter at smallest part 2 3/4" Area supported by each stay 19 sq in Working pressure by rules 245 lbs. Material of Front plates at bottom Steel  
 Thickness 13/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 12" Working pressure of plate by rules 160 lbs.  
 Diameter of tubes 3" Pitch of tubes 4 1/4" Material of tube plates Steel Thickness: Front 15/16" with 9/16" doubling Back 3/4" Mean pitch of stays 8 1/2 x 8 1/2"  
 Pitch across wide water spaces 14 1/4" Working pressures by rules 250 lbs. Girders to Chamber tops: Material Iron Depth and  
 thickness of girder at centre 6 1/4 x 3/4 double Length as per rule 25" Distance apart 8" Number and pitch of Stays in each Two 7 3/4"  
 Working pressure by rules 163 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



11899 *egs.*

**DONKEY BOILER**— Description *Steel Vertical. Certus Patent.*  
 Made at *Gateshead* By whom made *Clarke Chapman & Co* When made *29-8-92* Where fixed *In Stokeloid*  
 Working pressure *80lb.* tested by hydraulic pressure to *160lb.* No. of Certificate *3958* Fire grate area *16sqft* Description of safety valves *Direct spring.*  
 No. of safety valves *One.* Area of each *8.29sqft* Pressure to which they are adjusted *80lb.* If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *No.* Diameter of donkey boiler *5-6* Length *10-6* Material of shell plates *Steel* Thickness *13/32*  
 Description of riveting long seams *Lap double riveted* Diameter of rivet holes *13/16* Whether punched or drilled *Drilled* Pitch of rivets *3"*  
 Lap of plating *4 1/8"* Per centage of strength of joint Rivets *72* Thickness of shell crown plates *17/32* Radius of do. *5-0* No. of Stays to do. *Four*  
 Dia. of stays *1 5/8"* Diameter of furnace Top *2-6* Bottom *4-9* Length of furnace *3-0* Thickness of furnace plates *1/2"* Description of joint *Lap, single* Thickness of furnace crown plates *1/2"* Stayed by *As shell crown.* Working pressure of shell by rules *95lb.*  
 Working pressure of furnace by rules *90lb.* Diameter of <sup>iron</sup> uptake *10 1/4 13* Thickness of uptake plates *3/8"* Thickness of <sup>iron</sup> water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *Two connecting rod top & bottom end bolts & nuts - Two main bearing bolts - One set of coupling bolts - Assorted bolts & nuts - Feed & bilge pump valves - Also one propeller shaft and propeller -*

The foregoing is a correct description,  
*Muir & Houston* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

*These engines & boilers were commenced at the Southampton Naval Works - Appended hereto is a Report No 3225 by the Surveyors at that Port setting forth the amount the amount of work done there - The material was removed to Glasgow the works of Messrs Muir & Houston who have ordered new material where necessary and completed the work, they have therefore been returned on this Report as the makers - The various parts have been well put together, they have been well fitted on board and satisfactorily tested under steam and I am of opinion the machinery is eligible to be classed + L.M.C. 11-92 in the Register Book.*

*The approved tracing of main boiler is appended hereto also a new tracing showing the boiler as built - also a Report on forging*

*This is submitted that this vessel is eligible for THE RECORD + L.M.C. 11-92*  
*C.M. 21.11.92*

The Surveyors are requested not to write on or below the space for Committee's Minute.

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 1 : " : "	When applied for,
Special .. .. .	£ 10 : 13 : "	18/11/92
Donkey Boiler Fee .. .. .	£ " : " : "	When received,
Travelling Expenses (if any) £	" : " : "	18/11/92

*J.R. Robson*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 22 NOV 1892

Assigned

*+ L.M.C. 11, 92*



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