

# REPORT ON MACHINERY

No. 26230  
TUES. 11 FEB 1908

Date of writing Report 4<sup>th</sup> Feb 1908 When handed in at Local Office 5<sup>th</sup> Feb 1908 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 30<sup>th</sup> April 1907 Last Survey 1<sup>st</sup> Feb 1908  
 Reg. Book. on the J. S. "Ostiva" (Number of Visits 31)  
 Master Built at Campbelltown By whom built Campbelltown Ship. Co Ltd When built 1907  
 Engines made at Glasgow By whom made Hatson & Sons (No 285) when made 1907  
 Boilers made at Do By whom made Do (No 573) when made 1907  
 Regis. Horse Power 131 Owners J. S. Salveson & Co Port belonging to Erangenouth  
 Nom. Horse Power as per Section 28 131 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 18" 27 1/2" 45" Length of Stroke 33" Revs. per minute 90 Dia. of Screw shaft as per rule 9.99" as fitted 10.8" 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 ✓ 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 3' 4 1/2"  
 Dia. of Tunnel shaft as per rule 8.84" as fitted 8 7/8" Dia. of Crank shaft journals as per rule 9.28" as fitted 9 5/16" Dia. of Crank pin 9 5/16" Size of Crank webs 13" x 5 3/4" Dia. of thrust shaft under collars 9 5/16" Dia. of screw 12.3" Pitch of Screw 14"-3" No. of Blades 4 State whether moveable No Total surface 51 sq ft  
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 17" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 17" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 3 Sizes of Pumps 5 1/2" x 3 1/2" x 5 feet 4 1/2" x 2 3/4" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4-2 1/4" : 1-2 1/2" special. 7 3/4" x 9" x 10" Ballast In Holds, &c. 2-2 1/4" forward. 1-2 1/2" & 1-2 1/4" aft.  
 No. of Bilge Injections 1 sizes 3 3/4" Connected to condenser, or to circulating pump hump Is a separate Donkey Suction fitted in Engine room & 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 ✓  
 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 ✓ 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  
 Dates of examination of completion of fitting of Sea Connections and of Stern Tube and Screw shaft and Propeller examined at Campbelltown  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Middle platform

**BOILERS, &c.**—(Letter for record S.) Manufacturers of Steel Clydebridge Steel Co  
 Total Heating Surface of Boilers 2096.3 sq ft Is Forced Draft fitted No No. and Description of Boilers one single ended  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 16.8.07 No. of Certificate 8536  
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 65.55 sq ft No. and Description of Safety Valves to each boiler double spring loaded Area of each valve 7.06 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 9" out dia. of boilers 15'-0" Length 40'-6" Material of shell plates Steel  
 Thickness 3/32" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams O. Riv long. seams T. A. O. B. S. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 19 1/4"  
 Per centages of strength of longitudinal joint rivets 94.2 plate 85 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring W. Niel No. and Description of Furnaces in each boiler 3 Harrison's Material Steel Outside diameter 3.11 3/4"  
 Length of plain part top 9 1/16" bottom 9 1/16" Thickness of plates top 9 1/16" bottom 9 1/16" Description of longitudinal joint weld No. of strengthening rings ✓  
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 13/16"  
 Pitch of stays to ditto: Sides 8 1/4" x 8" Back 8 1/4" x 8 1/2" Top 8 1/4" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181  
 Material of stays Steel Area at smallest part 1.73 sq in Area supported by each stay 74.375 sq in Working pressure by rules 186 End plates in steam space: Material Steel Thickness 1" Pitch of stays 16 1/2" x 15 1/2" How are stays secured D.N. Wash Working pressure by rules 184 Material of stays Steel  
Area at smallest part 4.57 sq in Area supported by each stay 255.75 sq in Working pressure by rules 185 Material of Front plates at bottom Steel  
 Thickness 1" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 13 3/4" x 8 1/2" Working pressure of plate by rules 188  
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" x 4 3/8" Material of tube plates Steel Thickness: Front 1" Back 1/16" Mean pitch of stays 8 3/4"  
 Pitch across wide water spaces 13 3/4" Working pressures by rules 189 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/8" x 2 @ 3/4" Length as per rule 34 1/16" Distance apart 9" Number and pitch of stays in each 3 @ 8 1/4"  
 Working pressure by rules 180 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

In a Report also sent on the Hull of the Ship

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 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 \_\_\_\_\_ 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 top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed and bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes: propeller: 2 set of firebars

The foregoing is a correct description,

FOR HUTSON & SONS, LTD.

*Wm. Fairbairn*  
 Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1907 April 30. June 14. 20. July 10. 31. Aug. 6. 13. 21. 26. Sept 5. 24. Oct 3. 9. 15. 21. 23. 29. Nov. 13. 20. 21  
 { During erection on board vessel - - } 30 Dec. 6. 18. 30. 1908 Jan 6. 20. 24. 27. 28. 29. Feb 1.  
 Total No. of visits 31. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 6.8.07 Slides 21.8.07 Covers 21.8.07 Pistons 21.8.07 Rods 6.8.07  
 Connecting rods 6.8.07 Crank shaft 24.9.07 Thrust shaft 21.8.07 Tunnel shafts 6.12.07 Screw shaft 24.9.07 Propeller 24.9.07  
 Stern tube 24.9.07 Steam pipes tested 30.12.07 Engine and boiler seatings Campbelltown Engines holding down bolts 20.1.08  
 Completion of pumping arrangements 24.1.08 Boilers fixed 10.1.08 Engines tried under steam 29.1.08  
 Main boiler safety valves adjusted 24.1.08 Thickness of adjusting washers Star 5/16" Port 3/8"  
 Material of Crank shaft iron Identification Mark on Do. 285 Material of Thrust shaft iron Identification Mark on Do. 285  
 Material of Tunnel shafts iron Identification Marks on Do. 285 Material of Screw shafts iron Identification Marks on Do. 285  
 Material of Steam Pipes Copper Test pressure 360 lb per sq"

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

The machinery has been built under special survey: the material and workmanship being good, and satisfactorily tried under steam  
 It is submitted that above vessel will be eligible for a record of + L.M.C. 208 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. H 208.

The amount of Entry Fee.. £ 2.0.0 When applied for.  
 Special .. £ 19.13.0 7.2.1908  
 Donkey Boiler Fee .. £ : : When received,  
 Travelling Expenses (if any) £ : : 10.2.1908

*A. J. Thomas*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Glasgow 10 FEB 1908

Assigned + L M C 208

MACHINERY CERTIFICATE WRITTEN 11.2.08



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Glasgow.

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

If not, state whether, and when, one will be sent

Im. 17-T.