

## REPORT ON MACHINERY.

No. 29406

Received at London Office

Date of writing Report 5-10-1910 When handed in at Local Office 14 OCT 1910 10 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 10th March 1910 Last Survey 6-10-1910  
 Reg. Book. on the 3/5 "CLYDEMHOR"

Master John Macdonald Built at Paisley By whom built John Fullerton & Co (N<sup>o</sup> 216) When built 1910  
 Engines made at Glasgow By whom made Ross & Duncan (N<sup>o</sup> 839) when made 1910  
 Boilers made at Glasgow By whom made Ross & Duncan (N<sup>o</sup> 1296-7) when made 1910

Registered Horse Power Owners Clydeside & S. Co. L. B. Couper Port belonging to Glasgow  
 Nom. Horse Power as per Section 28 150 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 17", 27 1/2", 45" Length of Stroke 33" Revs. per minute 98 Dia. of Screw shaft 9 1/2" 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 yes If two  
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 3'-2"  
 Dia. of Tunnel shaft as per rule 8.47" Dia. of Crank shaft journals as per rule 8.88" Dia. of Crank pin 9" Size of Crank webs 16 1/2" x 5 1/2" Dia. of thrust shaft under  
 collars 9" Dia. of screw 11'-6" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable No Total surface 49 1/2 sq ft  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 16 1/2" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines Two Sizes of Pumps 9 1/2" x 4 1/2" & 6" x 4" & 4" x 3" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room one 2 1/4", one 2 1/2" & one 2 1/4" special In Holds, &c. Two 2"

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump B.P. Is a separate Donkey Suction fitted in Engine room & size yes 2 1/4"  
 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 forward pipes How are they protected wood casing  
 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 31-8-10 of Stern Tube 31-8-10 Screw shaft and Propeller 31-8-10  
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co of Scotland & Sanamshire  
 Total Heating Surface of Boilers 2696 sq ft Is Forced Draft fitted no No. and Description of Boilers 2 single ended marine  
 Working Pressure 140 lbs Tested by hydraulic pressure to 340 lbs Date of test 2-8-10 No. of Certificate 10518  
 Can each boiler be worked separately yes Area of fire grate in each boiler 39 sq ft No. and Description of Safety Valves to  
 each boiler Two spring loaded Area of each valve 3.976 sq in Pressure to which they are adjusted 175 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-6" Mean dia. of boilers 12'-0" Length 10'-0" 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 BR.  
 long. seams T.R.; D.B.S. Diameter of rivet holes in long. seams 1 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 172 lbs Size of manhole in shell 16 1/2" x 12"  
 plate 83.6 No. and Description of Furnaces in each boiler 2 plain Material steel Outside diameter 3'-8"  
 Size of compensating ring 7" x 3 1/2" Length of plain part top 36 1/4" Thickness of plates crown 3 3/4" Description of longitudinal joint welded No. of strengthening rings one  
 bottom 36 1/4" Working pressure of furnace by the rules 173 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 1 1/2" Top 5/8" Bottom 5/8"  
 Pitch of stays to ditto: Sides 9 7/8" x 8 1/2" Back 8 1/2" x 8 1/2" Top 9 1/4" x 8 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 171  
 Material of stays steel Diameter at smallest part 1-7/8" Area supported by each stay 78-750 Working pressure by rules 179 End plates in steam space:  
 Material steel Thickness 1" Pitch of stays 1'-5" x 1'-4" How are stays secured both ways Working pressure by rules 174 Material of stays steel  
 Diameter at smallest part 4-6 1/2" Area supported by each stay 272-50 Working pressure by rules 178 Material of Front plates at bottom steel  
 Thickness 13/16" Material of Lower back plate steel Thickness 13/16" Greatest pitch of stays 14" x 8 3/8" Working pressure of plate by rules 171-5  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 8 1/8"  
 Pitch across wide water spaces 1'-2" Working pressures by rules 182 Girders to Chamber tops: Material Iron Depth and  
 thickness of girder at centre 7" x 2 1/4" Length as per rule 2'-4 1/2" Distance apart 9" Number and pitch of stays in each 2 @ 8 3/4"  
 Working pressure by rules 193 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

W455-0032



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. None 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:— Two connecting rod top & bottom end bolts & nuts, Two main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, a quantity of assorted bolts and nuts, iron of various sizes, Two main & donkey check valves, and six boiler and condenser tubes.

The foregoing is a correct description,

Ross & Duncan Manufacturer.

Dates of Survey { During progress of work in shops— 1910. Mar 10. 30. April 6. 12. 26. 29. May 3. 10. 18. 23. 27. June 4. 20. 23. 27.  
During erection on board vessel— July 6. 11. 13. 26. 27. Aug 2. 5. 15. 24. 30. 31. Sep 6. 22. 23. 27. 30. Oct 3. 4. 5. 6.  
Total No. of visits 36.

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 23-5-10 Slides 10-5-10 Covers 27-7-10 Pistons 6-7-10 Rods 10-5-10  
Connecting rods 6-7-10 Crank shaft 23-5-10 Thrust shaft 19-8-10 Tunnel shafts none Screw shaft 19-8-10 Propeller 27-7-10  
Stern tube 27-7-10 Steam pipes tested 23-9-10 Engine and boiler seatings 22-9-10 Engines holding down bolts 27-9-10  
Completion of pumping arrangements 30-9-10 Boilers fixed 27-9-10 Engines tried under steam 4-10-10  
Main boiler safety valves adjusted 30-9-10 Thickness of adjusting washers 5-5/16 in. P 5/16 full; P 5/16, P 5/16.  
Material of Crank shaft iron Identification Mark on Do. 839 Material of Thrust shaft iron Identification Mark on Do. 839  
Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shaft iron Identification Marks on Do. 839  
Material of Steam Pipes solid drawn copper ✓ Test pressure 340 lbs per sq in ✓

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

The material and workmanship is good.  
The machinery of this vessel has been built under Special Survey and is eligible in my opinion for Classification, and the record:— + L.M.C.-10,10.

It is submitted that  
this vessel is eligible for  
THE RECORD, + L.M.C. 10, 10.

J.W.D. 5/10/10

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

The amount of Entry Fee .. £ 2 : - :  
Special .. £ 22 : 10 :  
Donkey Boiler Fee .. £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 13/10/10.  
When received, 15/10/10.

Committee's Minute GLASGOW 18 OCT. 1910

Assigned + L.M.C. 10, 10

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation