

## REPORT ON MACHINERY.

No. 22180

Port of GlasgowNo. in Survey held at  
Reg. Book.Date, first Survey 9<sup>th</sup> JulyReceived at London Office TUES. 18 OCT 1904Last Survey 6<sup>th</sup> Oct 1902(Number of Visits 8)on the Steel Screw Lug "Foam"Master A. de R. Built at Paisley By whom built Messrs James Fullerton & Co Tons { Gross 91.9  
Net 2.96When built 1902Engines made at Glasgow By whom made Messrs Ross & Duncan (No 180 3/5 No 627) when made 1904Boilers made at do By whom made do (No 1005) when made 1904Registered Horse Power 41.4 Owners Messrs R. & W. Paul & Co. Port belonging to IpswichNom. Horse Power as per Section 28 41.4 Is Refrigerating Machinery fitted No Is Electric Light fitted No

## ENGINES, &amp;c.—Description of Engines

CompoundNo. of Cylinders Two No. of Cranks TwoDia. of Cylinders 14.28 Length of Stroke 20" Revs. per minute 119 Dia. of Screw shaft 5.95 as per rule 6" as fitted Material of screw shaft IronIs 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 tightin the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If twoliners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 2" 0"Dia. of Tunnel shaft 5.56 as per rule 5.56 Dia. of Crank shaft journals 5.83 as per rule 5.78 as fitted Dia. of Crank pin 5.78 Size of Crank webs 3 7/8 x 9 3/16 Dia. of thrust shaft undercollars 5 7/8 Dia. of screw 6.6 Pitch of screw 11.6 No. of blades 4 State whether moveable No Total surface 19"No. of Feed pumps 1 Diameter of ditto 2 1/2 Stroke 10" Can one be overhauled while the other is at work ✓No. of Bilge pumps 1 Diameter of ditto 2 1/2 Stroke 10" Can one be overhauled while the other is at work ✓No. of Donkey Engines 1 Sizes of Pumps Imp. 4 1/2 x 2 3/4 x 4 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Two 2" In Holds, &c. Peak 2" Fore hold 2" Aft hold 2"No. of bilge injections 1 sizes 2 1/4" Connected to condenser, or to circulating pump Cir. p. Is a separate donkey suction fitted in Engine room & size Yes 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 NoneAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & CocksAre 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 AboveAre 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 YesWhat 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 YesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges YesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock New Model Is the screw shaft tunnel watertight No tunnelIs it fitted with a watertight door ✓ worked from ✓

## OILERS, &amp;c.—

(Letter for record S) Total Heating Surface of Boilers 826 Is forced draft fitted NoNo. and Description of Boilers One S. E. multi tubular Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbsDate of test 24.9.04 Can each boiler be worked separately ✓ Area of fire grate in each boiler 29.15 No. and Description of safety valves toeach boiler Two Direct Spring Area of each valve 2 3/8 dia Pressure to which they are adjusted 125 lbs Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 16" Mean dia. of boilers 10.4 1/16 Length 9' 0" Material of shell plates SteelThickness 2 1/32 Range of tensile strength 28-32 Are they welded or flanged No Descrip. of riveting: cir. seams S. R. L. long. seams B. Shaps. & Ric.Diameter of rivet holes in long. seams 13/16 Pitch of rivets 5 1/4" Lap of plates or width of butt straps 1 1/2" x 2 1/32 insidePercentages of strength of longitudinal joint 89.8 Working pressure of shell by rules 129 lbs Size of manhole in shell 12 x 16Size of compensating ring 6 3/4" x 2 1/32 No. and Description of Furnaces in each boiler Two: plain Material Steel Outside diameter 40"Length of plain part 6.6 Thickness of plates 9/16 Description of longitudinal joint Welded No. of strengthening rings AngleWorking pressure of furnace by the rules 127 Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 15/32 Top 1/2 Bottom 1/2Pitch of stays to ditto: Sides 8 x 8 Back 7 1/2 x 7 1/2 Top 8 x 7 3/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 120 lbsMaterial of stays Steel Diameter at smallest part 1.01 Area supported by each stay 64 Working pressure by rules 126 End plates in steam space:Material Steel Thickness 3/4" Pitch of stays 14 1/4 x 14 1/2 How are stays secured Double nut & washer Working pressure by rules 124 Material of stays SteelDiameter at smallest part 2.66 Area supported by each stay 214 Working pressure by rules 124 Material of Front plates at bottom SteelThickness 11/16 Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 14" at wide Working pressure of plate by rules 130 lbsDiameter of tubes 3 1/4" Pitch of tubes 4 1/4" Material of tube plates Steel Thickness: Front 11/16 Back 5/8" Mean pitch of stays 9 9/16Pitch across wide water spaces 14 1/2" Working pressures by rules 156 lbs Girders to Chamber tops: Material Iron Depth andThickness of girder at centre 6 x 1 1/2" Length as per rule 26 29/32 Distance apart 7 3/4 Number and pitch of Stays in each 2 at 8"Working pressure by rules 124 Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler workedseparately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivetplates ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓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—

No.

Description

None.

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 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

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

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:—

Two connecting rod top end & two bottom end bolts.  
Two main bearing bolts. One set coupling bolts. Set of feed & bilge pump valves.  
Assorted bolts & nuts. Iron.

The foregoing is a correct description,

Jas. Duncan

Manufacturer.

Dates  
of Survey  
while  
buildingDuring progress of  
work in shops—  
During erection on  
board vessel—  
Total No. of visits

1904 July 9. Aug 3. 4. 25. Sept 8. 23. Oct 4. 6

8.

Is the approved plan of main boiler forwarded herewith

Yes

"

"

"

donkey "

"

"

None

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

The machinery has been constructed & fitted on board under special survey & the workmanship has been found good.

The vessel is eligible in my opinion for the record + M.C. 10.04 in the Register.

It is submitted that  
this vessel is eligible for

M.C. 10.04.

Pms.

19.10.04

J.S.  
19.10.04

The amount of Entry Fee..

£

1

-

-

When applied for,

Special

£

8

-

-

17. OCT. 1904

Donkey Boiler Fee

£

-

-

When received,

Travelling Expenses (if any)

£

-

-

19. 10. 04

Committee's Minute

Glasgow 17 OCT 1904

Assigned

+ L.M.C. 10.04

MACHINERY CERTIFICATE  
WRITTEN

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of British &amp; Foreign Shipping.



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Foundation