

# REPORT ON MACHINERY.

No. 28457  
IMUK 6 JAN 1910

Received at London Office

Date of writing Report 19 When handed in at Local Office 4/11 1910 Port of Glasgow

No. in Survey held at Glasgow Reg. Book 19 on the "J. J. Kirkdale" Date, First Survey 5th May 1909 Last Survey 31st Dec 1909 (Number of Visits 32)

Masted by Archibald J. Gibson Built at Port Glasgow By whom built Russell & Co (2-610) When built 1909 Tons Gross 4731.63 Net 3047.03

Engines made at Glasgow By whom made David Rowan & Co (2-513) when made 1909

Boilers made at do By whom made do when made 1909

Registered Horse Power Owners J R Cuthbertson & Co Port belonging to Glasgow

Nom. Horse Power as per Section 28 494 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 26 1/2 - 44 - 72 Length of Stroke 48 Revs. per minute 74 Dia. of Screw shaft as per rule 14.8 as fitted 15.2 Material of slide as fitted 15.2 screw shaft

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 No 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 5-0

Dia. of Tunnel shaft as per rule 13.21 as fitted 13.4 Dia. of Crank shaft journals as per rule 13.867 as fitted 13.718 Dia. of Crank pin 14 Size of Crank webs 8 7/8 Dia. of thrust shaft under

collars 14 3/8 Dia. of screw 18-0 Pitch of Screw 18-2 No. of Blades 4 State whether moveable No Total surface 100 #

No. of Feed pumps 2 Diameter of ditto 4 Stroke 34 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 9x12x10, 8x5x8, 5 1/2 x 3 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 - 3 1/2 In Holds, &c. 2 - 3 1/2 each hold

Tunnel well 2 1/2

No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 7 or 8 Suctions How are they protected Wood covering

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 7 of Stern Tube 7 Screw shaft and Propeller Brunock Rpt.

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating

BOILERS, &c.—(Letter for record 15) Manufacturers of Steel William Beardmore & Co Ltd

Total Heating Surface of Boilers 7119 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1/11/09 No. of Certificate 10171

Can each boiler be worked separately Yes Area of fire grate in each boiler 56.5 # No. and Description of Safety Valves to

each boiler Cockburn Double Area of each valve 9.6 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 18 1/2 Mean dia. of boilers 14-6 Length 11-6 Material of shell plates steel

Thickness 1 5/16 Range of tensile strength 28,45,32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. R. L.

long. seams D. B. S. Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9 3/8 Lap of plates or width of butt straps 31

Per centages of strength of longitudinal joint rivets 98 plate 84.6 Working pressure of shell by rules 206 lbs Size of manhole in shell 16 x 12

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Diagonal Material steel Outside diameter 3.9 3/8

Length of plain part top Thickness of plates crown 9 1/16 Description of longitudinal joint weld No. of strengthening rings

Working pressure of furnace by the rules 195 Combustion chamber plates: Material steel Thickness: Sides 9 1/16 Back 9 1/16 Top 9 1/16 Bottom 7 1/2

Pitch of stays to ditto: Sides 7 3/8 x 7 7/8 Back 7 5/8 x 7 5/8 Top 7 5/8 x 7 5/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182

Material of stays steel Diameter at smallest part 1.44 Area supported by each stay 60 Working pressure by rules 197 End plates in steam space:

Material steel Thickness 1 3/8 Pitch of stays 24 x 18 1/2 How are stays secured D. nuts Working pressure by rules 190 Material of stays steel

Diameter at smallest part 8.85 Area supported by each stay 440 Working pressure by rules 209 Material of Front plates at bottom steel

Thickness 7 1/8 Material of Lower back plate steel Thickness 13 1/16 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 187

Diameter of tubes 2 1/2 Pitch of tubes 3 1/8 x 3 3/8 Material of tube plates steel Thickness: Front 7 1/8 Back 3 1/4 Mean pitch of stays 9-15

Pitch across wide water spaces 13 1/2 Working pressures by rules 183 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 8 3/4 x 1 1/2 Length as per rule 32 3/16 Distance apart 7 7/8 Number and pitch of stays in each 3 - 7 1/8

Working pressure by rules 180 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

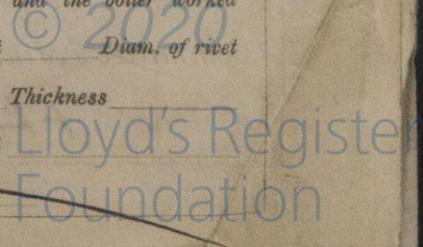
separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

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

W573-0030



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *None* Description *None*

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:— Tail shaft & nut, c. 1 propeller, 1 pr. crank pin bushes, air pump bucket & rod, air pump bucket & rod, set air pump valves, set safety valve springs, etc., & the bolts & nuts required by the Rules.

The foregoing is a correct description,

Manufacturer. *for David Rowan & Co*

Dates of Survey while building { During progress of work in shops - - 1909. May 5. 17. 20. 24. June 15. 22. 23. July 3. 14.  
 { During erection on board vessel - - Aug 3. 10. 20. 26. 31. Sep 1. 14. 22. 30. Oct 1. 18. 19. 27. Nov 1. 11. 16. Dec 1. 8. 10.  
 { Total No. of visits 32

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *31/8/09* Slides *30/9/09* Covers *8/10/09* Pistons *18/10/09* Rods *18/10/09*  
 Connecting rods *18/10/09* Crank shaft *14/9/09* Thrust shaft *22/9/09* Tunnel shafts *22/9/09* Screw shaft *22/9/09* Propeller *28/10/09*  
 Stern tube *22/9/09* Steam pipes tested *8 & 11/12/09* Engine and boiler seatings *10/12/09* Engines holding down bolts *10/12/09*  
 Completion of pumping arrangements *31/12/09* Boilers fixed *10/12/09* Engines tried under steam *31/12/09*  
 Main boiler safety valves adjusted *15/12/09* Thickness of adjusting washers *Start. 5 3/4 P 3/2, Centre. 5 1/2 P 1 1/2, End. 5 1/2 P 3/4*  
 Material of Crank shaft *S.M. Steel* Identification Mark on Do. *as per forw. reports* Material of Thrust shaft *S.M. Steel* Identification Mark on Do. *as per forw. reports*  
 Material of Tunnel shaft *S.M. Steel* Identification Marks on Do. *as per forw. reports* Material of Screw shaft *S.M. Steel* Identification Marks on Do. *do*  
 Material of Steam Pipes *Copper* Test pressure *360 lbs per sq. in.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey, the materials & workmanship are of good quality, it has been securely fitted on board and a full speed trial run which was satisfactory (Speed on measured mile 12.2 knots).*

*In our opinion the machinery of this vessel is now eligible for record of the L.M.C. 12-09 in register book.*

*Eight forging reports now attached.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.09.

FD.

*JWD JWR*  
7/10

The amount of Entry Fee £ 3 : : : :  
 Special £ 44-14-0. £ 44. 14 : : : :  
 Donkey Boiler Fee : : : :  
 Travelling Expenses (if any) £ : : : :

When applied for, *4/11/10*

When received, *12/1/10*

13-1-10

*H Gardner-Smith. George Murdoch*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASCOW 5 JAN. 1910

Assigned + L.M.C. 12.09

*J.D. covered*

MACHINERY CERTIFICATE WRITTEN 6-1-10



© 2020

Lloyd's Register Foundation

*Glasgow.*

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

Write "Sheer Strake" opposite its corresponding letter.  
 Sta this way  
 Do  
 Le  
 this  
 Po  
 BR  
 Fo  
 ma  
 Pl  
 C  
 D  
 Ha  
 FR  
 RE  
 De  
 Lo  
 To  
 Ri  
 Sa  
 EC  
 Nu  
 Cer  
 12  
 12  
 12  
 35  
 35  
 DR  
 Ni  
 Ce  
 36  
 36  
 Bo  
 Pi  
 W  
 Er  
 W  
 Co  
 Ni  
 Ce  
 Ca  
 Sta  
 N  
 S  
 B  
 T  
 B