

REPORT ON MACHINERY.

No. 29316

Received at London Office

WED. 21 SEP 1910

Date of writing Report 19/9/10 When handed in at Local Office 19/9/10 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 11th April 1910 Last Survey 6th Sept 1910
 Reg. Book. Sup. on the "Thomas Holt" (Number of Visits)
 Master A. Gladney Built at Port Glasgow By whom built W Hamilton & Co. When built 1910
 Engines made at Glasgow By whom made David Rowan & Co. (No. 539) when made 1910
 Boilers made at do By whom made do when made 1910
 Registered Horse Power Owners John Holt & Co. Ld Port belonging to Liverpool
 Nom. Horse Power as per Section 28 183 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 18. 30. 50 Length of Stroke 33 Revs. per minute 70 Dia. of Screw shaft as per rule 10.57 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 3.8
 Dia. of Tunnel shaft as per rule 9.02 Dia. of Crank shaft journals as per rule 9.47 Dia. of Crank pin 9 7/8 Size of Crank webs 6 Dia. of thrust shaft under
 collars 9 7/8 Dia. of screw 13.0 Pitch of Screw 14.6 No. of Blades 4 State whether moveable No Total surface 56
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 4 Sizes of Pumps 2.10 x 8, 4.5 x 8, 5.5 x 8, 5.5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 - 3" In Holds, &c. 2 - 3" each hold
 Tunnel 3"
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes - 3"
 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 For suction 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 of Stern Tube of Screw shaft and Propeller Greenock R.P.M.

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel William Beardmore & Co. Ltd.
 Total Heating Surface of Boilers 3200 Is Forced Draft fitted no No. and Description of Boilers 2 Single Ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 7/7/10 No. of Certificate 10492.
 Can each boiler be worked separately Yes Area of fire grate in each boiler 43.5 No. and Description of Safety Valves to
 each boiler Cockburn Double Area of each valve 4.9 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 Mean dia. of boilers 13.0 Length 10.6 Material of shell plates steel
 Thickness 1 1/8 Range of tensile strength 28.5 to 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 3/16 Pitch of rivets 7.5 Lap of plates or width of butt straps 17 1/2
 Per centages of strength of longitudinal joint rivets 103 plates 84.2 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 39"
 Length of plain part top Thickness of plates crown 1 1/2 Description of longitudinal joint weld No. of strengthening rings
 bottom Working pressure of furnace by the rules 194 Combustion chamber plates: Material steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 3/4
 Pitch of stays to ditto: Sides 9 x 8 1/2 Back 9 x 8 1/2 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181
 Material of stays steel Diameter at smallest part 1.76 Area supported by each stay 74 Working pressure by rules 190 End plates in steam space:
 Material steel Thickness 1 1/8 Pitch of stays 17 x 18 How are stays secured D. nuts Working pressure by rules 185 Material of stays steel
 Diameter at smallest part 5.9 Area supported by each stay 305 Working pressure by rules 200 Material of Front plates at bottom steel
 Thickness 7/8 Material of Lower back plate steel Thickness 1 3/16 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 190
 Diameter of tubes 3 3/4 Pitch of tubes 4 3/8 Material of tube plates steel Thickness: Front 7/8 Back 2 7/32 Mean pitch of stays 10 15/16
 Pitch across wide water spaces 13 1/2 Working pressures by rules 182 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 1/2 x 3 1/2 Length as per rule 29.4 Distance apart 7 1/2 x 8 1/2 Number and pitch of stays in each 2 - 9
 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

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description Cylindrical Return Tube. In Rpt. 5a.
Made at Glasgow By whom made David Rowan & Co. When made 1910 Where fixed St. Rochold
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 casing 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 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, set of coupling bolts & nuts, feed & bridge valves, assorted iron & bolts & nuts, propeller shaft, propeller, set air & circulating pump valves, etc.

The foregoing is a correct description,

for David Rowan & Co. Manufacturer.

Dates of Survey while building 1910. Apr: 11. 18. 26. 28. May 9. 27. June 1. 10. 22. July 7. 13. Aug 3
During progress of work in shops - -
During erection on board vessel - -
Total No. of visits 18.

Is the approved plan of main boiler forwarded herewith? Yes
" " " donkey " " " Jonathan

Dates of Examination of principal parts—Cylinders 10/6/10 Slides 22/6/10 Covers 22/6/10 Pistons 22/6/10 Rods 22/6/10
Connecting rods 22/6/10 Crank shaft 10/6/10 Thrust shaft 3/8/10 Tunnel shafts 10/6/10 Screw shaft 10/6/10 Propeller 10/6/10
Stern tube 10/6/10 Steam pipes tested 24/8/10 Engine and boiler seatings 18/8/10 Engines holding down bolts 18/8/10
Completion of pumping arrangements 22/8/10 Boilers fixed 22/8/10 Engines tried under steam 6/9/10
Main boiler safety valves adjusted 26/8/10 Thickness of adjusting washers P.P. 1 1/2, 6 3/8. S.P. 1 1/2, 5 3/8. D.B.P. 3/8, 1 3/8
Material of Crank shaft steel Identification Mark on Do. Material of Thrust shaft steel Identification Mark on Do. H.G.S.
Material of Tunnel shafts steel Identification Marks on Do. Material of Screw shafts iron Identification Marks on Do. H.G.S.
Material of Steam Pipes Copper Test pressure 360 lb

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

The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible to have notation * L.M.C. 9.10 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD, + L.M.C. 9.10

H.P.R. J.M. 27/9/10

The amount of Entry Fee £2. 2 : : : When applied for, 19/9/10
Special £27. 9. 0 £ 27 : 9/ : : When received, 21. 9. 0
Donkey Boiler Fee £ : : :
Travelling Expenses (if any) £ : : :

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

Committee's Minute GLASGOW 20 SEP. 1910

Assigned + L.M.C. 9.10

MACHINERY CERTIFICATE WRITTEN 21.9.10



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