

REPORT ON MACHINERY.

No. 29477

Received at London Office

Date of writing Report 19 When handed in at Local Office 7/11/10 to Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 11th April 1910 Last Survey 29th Oct 1910
 Reg. Book. 31 Sep. on the J. I. "Drumcraig" (Number of Visits)
 Master Alex Hayson Built at Port Glasgow By whom built Russell & Co Tons Gross 4462.52
 Engines made at Glasgow By whom made David Rowan & Co Net 2936.14
 Boilers made at do By whom made do When built 1910
 Registered Horse Power Owners J Chadwick & Son Port belonging to Liverpool
 Nom. Horse Power as per Section 28 550 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 27.44.73 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 14.87 Material of screw shaft as fitted 15.36 steel
 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 5.0
 Dia. of Tunnel shaft as per rule 13.325 Dia. of Crank shaft journals as per rule 13.94 Dia. of Crank pin 14.2 Size of Crank webs 9.2 Dia. of thrust shaft under collars 14.2 Dia. of screw 18.2 Pitch of Screw 18.0 No. of Blades 4 State whether moveable No Total surface 104
 No. of Feed pumps 2 Diameter of ditto 4.2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4.4 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 9.12 x 10, 8.2 x 6, 6.2 x 5, 5.13 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4-3.3 In Holds, &c. 2-3.2 each hold
 No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 3.5
 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 7.04 Injections 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 Gut. 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 (S) Manufacturers of Steel David Balcanell & Co Ltd
 Total Heating Surface of Boilers 7200 Is Forced Draft fitted Yes No. and Description of Boilers Two S. E. Alex Auxiliary
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 29/9/10 No. of Certificate 10607
 Can each boiler be worked separately Yes Area of fire grate in each boiler 80.5 # 73.2 No. and Description of Safety Valves to each boiler Double Spring Area of each valve 14.186 Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 10 Mean dia. of boilers 17.6 Length 12.6 Material of shell plates slit
 Thickness 1.32 Range of tensile strength 28.4 min Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S. B. S. long. seams S. B. S. Diameter of rivet holes in long. seams 19/16 Pitch of rivets 10.0625 Lap of plates or width of butt straps 22.5
 Per centages of strength of longitudinal joint rivets 101 plate 84.47 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 4 Duglison Material slit Outside diameter 48.8
 Length of plain part top bottom Thickness of plates crown 9/16 Description of longitudinal joint mild No. of strengthening rings
 Working pressure of furnace by the rules 183 Combustion chamber plates: Material slit Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 7/8
 Pitch of stays to ditto: Sides 8 3/4 x 9 Back 8 3/4 x 9 Top 8 3/4 x 9 If stays are fitted with nuts or riveted heads No Working pressure by rules 190
 Material of stays slit Diameter at smallest part 1.76 Area supported by each stay 7.8 Working pressure by rules 180 End plates in steam space: Area slit Thickness 1.52 Pitch of stays 2.3 How are stays secured D. nuts Working pressure by rules 182 Material of stays slit
 Diameter at smallest part 9.6 Area supported by each stay 5.30 Working pressure by rules 188 Material of Front plates at bottom slit
 Thickness 7/8 Material of Lower back plate slit Thickness 27/32 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 187
 Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 5/8 Material of tube plates slit Thickness: Front 31/32 Back 3/16 Mean pitch of stays 11 1/16
 Pitch across wide water spaces 13.2 Working pressures by rules 185 Girders to Chamber tops: Material slit Depth and thickness of girder at centre 9 3/4 x 2 x 2 Length as per rule 3.7 1/2 Distance apart 9 Number and pitch of stays in each 3-8 3/4
 Working pressure by rules 180 Superheater or Steam chest; how connected to boiler No 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

Auxiliary

~~VERTICAL~~ DONKEY BOILER—

Manufacturers of Steel

No. 1 Description Reported Rpt. 5a
Made at Glasgow By whom made David Rowan & Co. When made 1910 Where fixed Main Deck
Working pressure 180 tested by hydraulic pressure to 360 Date of test 3/10/10 No. of Certificate 10611 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
Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays Plates
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:— 1 propeller, set air & vice, pump valves, two top end
two bottom end bolts & nuts, set of coupling bolts & nuts, 2 main bearing bolts,
12 Condenser tubes, 12 boiler tubes, assorted iron, bolts etc.

The foregoing is a correct description,

for David Rowan & Co. Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1910 April 11. 18. 21. May 9. 27. June 10. July 11. 13. Aug 3.
During erection on board vessel - - S. 15. 22. Sep 1. 8. 13. 20. 21. 27. 28. Oct 3. 4. 7. 11. 17. 20. 22. 28.
Total No. of visits 28.

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

Dates of Examination of principal parts—Cylinders 22/8/10 Slides 22/8/10 Covers 22/8/10 Pistons 22/8/10 Rods 17/10/10
Connecting rods 17/10/10 Crank shaft 22/8/10 Thrust shaft 22/8/10 Tunnel shafts 8/9/10 Screw shaft 8/9/10 Propeller 8/9/10
Stern tube 8/9/10 Steam pipes tested 20/10/10 Engine and boiler seatings 11/10/10 Engines holding down bolts 22/10/10
Completion of pumping arrangements 29/10/10 Boilers fixed 22/10/10 Engines tried under steam 29/10/10
Main boiler safety valves adjusted 22/10/10 Thickness of adjusting washers P.M.B. 5 5/16, P.H. 5 1/4, S.M.B. 5 3/4, P.H. 5 1/4, Ann. B. A 5 1/4
Material of Crank shaft steel Identification Mark on Do. } H.G.S. Material of Thrust shaft steel Identification Mark on Do. } H.G.S.
Material of Tunnel shafts steel Identification Marks on Do. } H.G.S. Material of Screw shafts steel Identification Marks on Do. } H.G.S.
Material of Steam Pipes Copper Test pressure 360 lbs. ✓

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 our opinion eligible to have notation * L.M.C. 10.10 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD, + LMC 10.10.

2SB (FD) 1 Aux.

The amount of Entry Fee £ 3 : 3 :
Special £ 47 : 10 : 0 £ 47 : 10 :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 3/11/10
When received, 8/11/10

H. G. S. H. G. S.
H. G. S. H. G. S.
Engine Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW - 8 NOV. 1910

Assigned + LMC 10.10

FD. MACHINERY CERTIFICATE WRITTEN.



© 2020

Lloyd's Register Foundation