

1910 MAR 3

Port of Belfast Date, first Survey June 3rd 1909 Last Survey Feb. 24th 1910
No. in Survey held at Belfast (Number of Visits 52.)
Reg. Book. P.P. "Tenet" Gross 606
on the P.P. "Tenet" Tons Net 233
Master Belfast By whom built Waukman Clark & Co. Ltd. when built 1910
Engines made at Belfast By whom made Massey & Co. Ltd. when made 1910
Boilers made at Belfast By whom made Waukman Clark & Co. Ltd. when made 1910
Registered Horse Power 106 Owners W. A. G. G. G. Port belonging to Belfast
Nom. Horse Power as per Section 28 106 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No
ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 14 1/2 - 24 - 40 Length of Stroke 36 Revs. per minute 75 Dia. of Screw shaft 9 1/2 Material of S. S. Bars
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 Yes 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 Yes Length of stern bush 44
Dia. of Tunnel shaft 8 1/2 as per rule 8 1/2 Dia. of Crank shaft journals 8 1/2 as per rule 8 1/2 Dia. of Crank pin 8 1/2 Size of Crank webs 5 1/2 x 6 Dia. of thrust shaft under
collars 8 1/2 as fitted 8 1/2 Dia. of screw 11 - 9 Pitch of Screw 15 - 6 No. of Blades 4 State whether moveable Yes Total surface 41 sq. ft.
No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 15 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 2 3/4 Stroke 15 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 Sizes of Pumps General 4 1/2 x 3 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2 - 2 1/2 x 2 - 2 General 4 1/2 x 3 x 6 3 - 2 1/2 x 2 - 2 1/2
No. of Bilge Injections 4 sizes 4 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 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 Yes
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 Below
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 Four hold suction How are they protected Wood casings
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 16 - 1 - 10 of Stern Tube 18 - 1 - 10 Screw shaft and Propeller 18 - 1 - 10
Is the Screw Shaft Tunnel watertight Yes it fitted with a watertight door Yes worked from Top platform E. Room
BOILERS, &c.—(Letter for record 3) Manufacturers of Steel Beaumont & Co. Ltd.
Total Heating Surface of Boilers 1650 sq. ft. Draft fitted No No. and Description of Boilers one - Cyl. Single End
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 27 - 12 - 09 No. of Certificate 425
Can each boiler be worked separately Yes Area of fire grate in each boiler 40 1/2 sq. ft. No. and Description of Safety Valves to
each boiler 2 - Direct Spring Area of each valve 7.07 sq. in. Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 6 ft. Mean dia. of boilers 4' 3" Length 10' 6" Material of shell plates Steel
Thickness 1 1/2" Range of tensile strength 28 - 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap - 18"
long. seams Butt Lap Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18"
Per centages of strength of longitudinal joint 88.9 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"
Size of compensating ring 11" dia. No. and Description of Furnaces in each boiler 2 - Reheat Material Steel Outside diameter 49 1/2"
Length of plain part 9" Thickness of plates 3 5/8" Description of longitudinal joint Weld No. of strengthening rings 1
Working pressure of furnace by the rules 204 lbs Thickness: Sides 5" Back 3 1/4" Top 5" Bottom 3 1/4"
Pitch of stays to ditto: Sides 9 1/2 x 8" Back 8 1/2 x 8" Top 9 1/2 x 7 1/2" Stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 181 lbs
Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 74 sq. in. Working pressure by rules 196 lbs and plates in steam space:
Material Steel Thickness 1 3/4" Pitch of stays 18 1/2 x 17" How are stays secured Nuts & washers Working pressure by rules 194 lbs Material of stays Steel
Diameter at smallest part 1 3/4" Area supported by each stay 81 1/2 sq. in. Working pressure by rules 181 lbs Material of Front plates at bottom Steel
Thickness 1" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 15" Working pressure of plate by rules 183 lbs
Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 1/2" Material of tube plate Steel Thickness: Front 1" Back 3/2" Mean pitch of stays 3 1/2 x 9 1/4"
Pitch across wide water spaces 15 1/2" Working pressures by rules 268 lbs and plates in steam space:
thickness of girder at centre 9 1/2 x (8 x 2) Length as per rule 31 1/4" Distance apart 9 1/4" Number and pitch of stays in each 3 - 7 1/4"
Working pressure by rules 213 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
separately Yes Diameter 18" Length 18" Thickness of shell plates 1" Material Steel Description of longitudinal joint Butt Diam. of rivet
holes 1" Pitch of rivets 1" Working pressure of shell by rules 268 lbs Diameter of flue 18" Material of flue plates Steel Thickness 1"
If stiffened with rings Yes Distance between rings 18" Working pressure by rules 268 lbs End plates: Thickness 1" How stayed By stays
Working pressure of end plates 213 lbs Area of safety valves to superheater 18" Are they fitted with easing gear Yes

VERTICAL DONKEY BOILER—

Manufacturers of Steel

J. Calville & Lane L^{td}

No. *one* Description *Vertical 2 Cyl. boiler*

Made at *Belfast* By whom made *Muscoll & Co L^{td}*

When made *1910* Where fixed *Stokehold*

Working pressure *100 lbs* by hydraulic pressure to *200 lbs* of test *1-12-09* No. of Certificate *427* Fire grate area *4 sq ft* Description of Safety

Valves *Wootton* No. of Safety Valves *1* Area of each *1 sq ft* Pressure to which they are adjusted *100 lbs* Date of adjustment *24/2/10*

If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *4'-9"* Length *18'-3"*

Material of shell plates *Steel* Thickness *3/8"* Range of tensile strength *28-32 tons* of riveting long. seams *Lap Double*

Dia. of rivet holes *4/4"* Whether punched or drilled *Punched* Dia. of rivets *2 3/4"* Lap of plating *3 1/2"* Per centage of strength of joint *72.5%*

Working pressure of shell by rules *100 lbs* Thickness of shell crown plates *7/16"* Radius of do. *4'-9"* No. of stays to do. *6* Dia. of stays *1 1/2"*

Diameter of furnace Top *3'-7"* Bottom *4'-2 1/2"* Length of furnace *4'-8"* Thickness of furnace plates *1/2"* Description of joint *Lap S. Riv.*

Working pressure of furnace by rules *100 lbs* Thickness of furnace crown plates *7/16"* Stayed by *as shell crown*

Diameter of uptake *13"* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"* Dates of survey *15 under*

SPARE GEAR.

State the articles supplied:—

Two connecting rods top end bolts & nuts, two bottom end bolts & nuts, 2 main bearing bolts, set coupling bolts sets feed, buffer air & circulating pump valves, bolt nuts, man st.

The foregoing is a correct description,

Muscoll & Co., Limited,

Manufacturer.

Muscoll

Dates of Survey while building
During progress of work in shops—*June 3-15-22-23-25 July 1-7-23-27-29 Sept 8-9-10-13-14-17-22-24 Oct 7-12-15-18-19-20 Nov 1-2-9-10-15-18-24-27 Dec 7-10-11-14-15-20-20*
During erection on board vessel—*Jan 12-18-22-24-31 Feb 3-9-11-17-19-22-23-24*
Total No. of visits *52*

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

" " " donkey " " *No*

Dates of Examination of principal parts—Cylinders *23-24-09* Covers *Do* Pistons *Do* Rods *Do*

Connecting rods *21-1-10* Crank shaft *Do* Thrust shaft *1-11-10* Tunnel shafts *Do* Screw shaft *20-1-10* Propeller *11-12-09*

Stern tube *11-12-09* Steam pipes tested *22-2-10* Engine and boiler seatings *20-12-09* Engines holding down bolts *18-1-10*

Completion of pumping arrangements *24/2/10* Boilers fixed *18-1-10* Engines tried under steam *22-1-10*

Main boiler safety valves adjusted *24-2-10* Thickness of adjusting washers *5-6/16"*

Material of Crank shaft *Steel* Identification Mark on Do. *4364* Material of Thrust shaft *Steel* Identification Mark on Do. *22-12-09*

Material of Tunnel shafts *Do* Identification Marks on Do. *4364* Material of Screw shafts *Steel* Identification Marks on Do. *Do*

Material of Steam Pipes *W. Iron* Test pressure *360 lbs*

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

The machinery of this vessel has been constructed under Special License, and in accordance with the Rules. The workmanship, and the materials used are of good description, and an trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 2-10

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 2.10.

For 4/3/10

The amount of Entry Fee... £ *2* : *0* :
Special ... £ *15* : *18* :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for... *1-3-1910*
When received... *5-3-10*

R. F. Berenice

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

Committee's Minute

FRI 4 MAR 1910

Assigned

+ L.M.C. 2.10



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MACHINERY CERTIFICATE WRITTEN

Certificate (if required) to be sent to Lloyd's Register