

REPORT ON MACHINERY.

Port of *Belfast*

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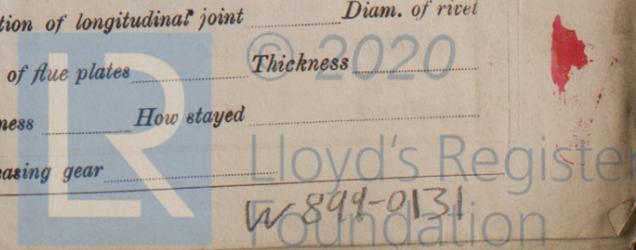
TUES. 15 MAY 1906

No. in Survey held at *Belfast* Date, first Survey *June 1st* Last Survey *7th May 1906*
 Reg. Book. *A.S. "Leucavel"* (Number of Visits *35*)
 on the *Leucavel*
 Master *Crown* Built at *Crown* By whom built *Pike & Co. L^d* Tons { Gross
 Engines made at *Belfast* By whom made *Magnall & Co. L^d* when made *1906* Net
 Boilers made at *Glasgow* By whom made *W. Rowan & Son* when made
 Registered Horse Power *184* Owner *The Northern Iron and Coal Co. L^d* belonging to *Belfast*
 Nom. Horse Power as per Section 28 *184* 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 *18"-30"-50"* Length of Stroke *36* Revs. per minute *80* Dia. of Screw shaft as per rule *10.00* Material of screw shaft *S. Steel*
 as fitted *11.0*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No liners* 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 *✓* If two
 liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *44"*
 Dia. of Tunnel shaft as per rule *9.50* Dia. of Crank shaft journals as per rule *9.77* Dia. of Crank pin *10* Size of Crank webs *18 1/2" x 7 1/2"* Dia. of thrust shaft under
 as fitted *9.675* as fitted *10.0*
 collars *10* Dia. of screw *12.6* Pitch of Screw *15-3* No. of Blades *4* State whether moveable *Yes* Total surface *56 sq. ft.*
 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 *3* Sizes of Pumps *Feed 6 x 4 1/2 x 6* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *4-2* *General 4 1/2 x 3 x 6* *Ballast 8 x 10 x 10* Holds, &c. *3-2 1/2" 1-3"*

No. of Bilge Injections / sizes *6* Connected to condenser, or to circulating pump *Pumps a separate Donkey Suction fitted in Engine room & size Yes-6"*
 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 *None*
 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 *Both*
 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 *Fore & aft 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 *(Fitted at Crown)* Screw shaft and Propeller
 Is the Screw Shaft Tunnel watertight *Stated to be* fitted with a watertight door *Yes* worked from *Top platform E. Room*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Clyde Works, Glasgow*
 Total Heating Surface of Boilers *31,260 sq. ft.* Forced Draft fitted *No* No. and Description of Boilers *Two—Single Endel.*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *14-2-06* No. of Certificate *7917*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *77 sq. ft.* No. and Description of Safety Valves to
 each boiler *Two—Direct Spring* each valve *4 1/2"* 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 *Keels* Mean dia. of boilers Length Material of shell plates
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint rivets plate Working pressure of shell by rules Size of manhole in shell
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
 bottom bottom
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
 Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and
 thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each
 Working pressure by rules Superheater or Steam chest; how connected to boiler 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



VERTICAL DONKEY BOILER

Manufacturers of Steel

Steel Coy of Scotland Glasgow

No. One Description Vertical 2 Cross Tubes
Made at Belfast By whom made Macdonell & Co Ltd When made 1906 Where fixed Stokeholm
Working pressure 100 lbs by hydraulic pressure to 200 lbs Date of test 12-1-06 No. of Certificate 370 Fire grate area 13 sq ft Description of Safety
Valves Direct Spring No. of Safety Valves 2 Area of each 3 1/4 sq pressure to which they are adjusted 180 lbs Date of adjustment 7-5-06
If fitted with easing gear No If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 4'-9" Length 10'-3"
Material of shell plates Steel Thickness 5/8 Range of tensile strength 28-32 Descrip. of riveting long. seams Lap Ribs
Dia. of rivet holes 7/8 Whether punched or drilled Drilled Dia. of rivets 2 3/4 Lap of plating 3 1/2 Per centage of strength of joint Plates 72.5
Working pressure of shell by rules 100 lbs Thickness of shell crown plates 7/8 Radius of do. 4'-9" No. of stays to do. 6 Dia. of stays 1 1/2
Diameter of furnace Top 3'-7 1/2 Bottom 4'-3 1/2 Length of furnace 4'-9" Thickness of furnace plates 9/16 Description of joint Lap Ribs
Working pressure of furnace by rules 118 lbs Thickness of furnace crown plates 7/8 Stayed by As shell crown
Diameter of uptake 13" Thickness of uptake plates 1/2 Thickness of water tubes 3/8 Dates of survey 9/9/05 to 7/5/06.

SPARE GEAR. State the articles supplied: 2 Connecting Rods, 2 Bolts, 2 Nuts, 2 Cross-heads, 2 Main Bearings, 6 coupling do., 6 funk ring do., air, feed, circulating & belt pump valves, 2 eccentric rods, strap complete, boiler check valves, safety valve spring, 10 condenser tubes, 10 boiler tubes, Iron, Bolts.

The foregoing is a correct description, Macdonell & Co Ltd Manufacturer.
Dates of Survey: June 1, 15, July 4, Aug 8, 14, 21, 22, 29, 31, Sep 13, 20, Oct 12, 23, Nov 3, 20, Dec 7, 13, 19, Jan 11, 12, Feb 19

Is the approved plan of main boiler forwarded herewith Yes
Cylinders 15-6-05 Slides 9 Coals 06 Pistons 06 Rods 06
Connecting rods 06 Crank shaft 06 Thrust shaft 06 Tunnel shafts 06 Screw shaft 06 Propeller 06
Stern tube 17-2-06 Steam pipes tested 19-4-06 Engine and boiler seatings 27-3-06 Engines holding down bolts 17-4-06
Completion of pumping arrangements 17-4-06 Boilers fixed 06 Engines tried under steam 7-5-06
Main boiler safety valves adjusted 7-5-06 Thickness of adjusting washers 1/8
Material of Crank shaft Steel Identification Mark on Do. 16-10-15 J.W.B. Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S
Material of Tunnel shafts Steel Identification Marks on Do. 2-3-4 R.F.B. Material of Screw shafts Steel Identification Marks on Do. R.F.B.
Material of Steam Pipes W-Iron Test pressure 600 lbs

General Remarks (State quality of workmanship, opinions as to class, &c.)
These engines and boilers have been constructed under Special License, and in accordance with the Rules. They have been securely fitted on board, and on trial, in Belfast Lough, they worked satisfactorily. The Boilers were examined under steam, and found efficient. See Glasgow Report No 23953.

In my opinion, the machinery of this vessel, is eligible for record + L.M.C. 5-06.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 5.06 ELEC:LIGHT.

The amount of Entry Fee... £ 2 : - : When applied for, 11-5-1906
Special £ 27 : 12 :
Donkey Boiler Fee £ 9-4-0 due to Glasgow office
Travelling Expenses (if any) £ : : When received, 17/5/06

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

Committee's Minute Assigned James 5.06

