

REPORT ON MACHINERY.

Port of *Belfast*

MON. 10 DEC 1894

Received at London Office 13

No. in Survey held at
Reg. Book.*Belfast*Date, first Survey *May 17* 1894 Last Survey *Dec 6* 1894(Number of Visits *37*)

on the

*Steel screw steamer "Ulstermore"*Tons { Gross *6326*Net *4142*When built *1894*Master *John Greener* Built at *Belfast*By whom built *Harland & Wolff, Ltd*Engines made at *Belfast*By whom made *Harland & Wolff, Ltd*when made *1894*

Boilers made at

By whom made

when made *1894*Registered Horse Power *610*Owners *Wm Johnston & Co Ltd*Port belonging to *Liverpool*Nom. Horse Power as per Section 28 *610*

ENGINES, &c.—

Description of Engines

Triple Expansion

No. of Cylinders

*Three*Diameter of Cylinders *30 1/2; 50; 82* Length of Stroke *60* Revolutions per minute *66* Diameter of Screw shaft as per rule *15.6*Diameter of Tunnel shaft as fitted *14.8* Diameter of Crank shaft journals *16 1/2* Diameter of Crank pin *16 1/2* Size of Crank webs *22" x 12"*Diameter of screw *19" 2"* Pitch of screw *22" 6"* No. of blades *4* State whether moveable *yes* Total surface *96.5"*No. of Feed pumps *2* Diameter of ditto *4 1/2* Stroke *33"* Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2* Diameter of ditto *5"* Stroke *33"* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *Four* Sizes of Pumps *Weir feed (air) 10" x 8" x 26"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Three 3 1/2" diam* *Watson's Patent 10" x 10" x 10"* *Har. & W. Dup. E.R. 9" x 6" x 4"* *Warrington 6" x 4" x 6"* *4 Holds, &c. No 1 hold, one 3 1/2". No 2 hold, three 3 1/2".*No. 3 hold, four 3 1/2". No 4 hold, one 3 1/2". No 5 hold, one 3 1/2". Tunnel suction *3 1/2"*No. of bilge injections *1* sizes *9"* Connected to condenser, or to circulating pump *circ. p.* 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 *none*Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *larger ones, valves; smaller, cocks.*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 (none 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*That pipes are carried through the bunkers *Bilge pipes to No 3 hold well* How are they protected *Strong 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*Then were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launch* Is the screw shaft tunnel watertight *yes*it fitted with a watertight door *yes* worked from *upper Eng. Rm. grating*

BOILERS, &c.—

(Letter for record *S*)

Total Heating Surface of Boilers

*10510 sq ft*and Description of Boilers *Two double ended & two single ended* Working Pressure *180 lb* Tested by hydraulic pressure to *360*Date of test *4.10.94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *106 sq ft* No. and Description of safety valves toboiler *Two, Cockburn's* Area of each valve *17.72 sq ft* Pressure to which they are adjusted *185 lb* Are they fittedeasing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *abt 2 ft.* Mean diameter of boilers *14" 3"*Material of shell plates *steel* Thickness *1 3/8* Description of riveting: circum. seams *Double riveted.* long. seams *Double straps*Diameter of rivet holes in long. seams *1 1/16* Pitch of rivets *9 3/8* Lap of plates or width of butt straps *1" 9" x 1 1/16"*Percentages of strength of longitudinal joint *93.5* Working pressure of shell by rules *198* Size of manhole in shell *16" x 12"*of compensating ring *2" 7" x 2" 3" x 1 3/8"* No. and Description of Furnaces in each boiler *6 ribbed 0.2.* Material *Steel* Outside diameter *41 1/2*Thickness of plain part *top 9/16* Thickness of plates *crown 9/16* Description of longitudinal joint *welded* No. of strengthening rings *~*Working pressure of furnace by the rules *195* Combustion chamber plates: Material *Steel* Thickness: Sides *19/32* Back *19/32* Top *3/8* Bottom *3/4*of stays to ditto: Sides *8 1/4* Back *8 1/4* Top *8 1/4* If stays are fitted with nuts or riveted heads *yes inside & at back of shell* Working pressure by rules *179*Material of stays *Steel* Diameter at smallest part *1 3/8"* Area supported by each stay *65 1/2* Working pressure by rules *180* End plates in steam space:Material *Steel* Thickness *1 1/16* Pitch of stays *17 1/4" x 19"* How are stays secured *doub. nuts & washers 14" x 1 1/16"* Working pressure by rules *180* Material of stays *steel*Diameter at smallest part *2 1/8"* Area supported by each stay *320* Working pressure by rules *180* Material of Front plates at bottom *steel*Thickness *1 5/16* Material of Lower back plate *steel* Thickness *1 5/16* Greatest pitch of stays *as approx* Working pressure of plate by rules *180*Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *steel* Thickness: Front *7/8"* Back *3/4"* Mean pitch of stays *9"*Pitch across wide water spaces *14 1/2"* Working pressures by rules *180* Girders to Chamber tops: Material *wood* Depth, andthickness of girder at centre *4.5 3/4" x 1 3/4" suspended 2 3/4" stays. 30 3/4" 0.2.* Distance apart *8 1/4"* Number and pitch of Stays in each *4 at 8" 0.2.*Working pressure by rules *180* Superheater or Steam chest; how connected to boiler *~* Can the superheater be shut off and the boiler workedseparately *~* Diameter *~* Length *~* Thickness of shell plates *~* Material *~* Description of longitudinal joint *~* Diam. of rivetholes *~* 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 *~*

DONKEY BOILER— Description *Single ended main boiler used for auxiliary purposes*

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____

Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Two c.i. propeller blades & 9 studs. Set crank pin braces. Three safety-valve springs. Light coupling bolts for crank shaft. Eccentric strap & shaver. Valve spindle. 2 main bearing to 2 top & 2 bottom end connecting rod bolts. 12 bolts & nuts for pistons. 18 boiler tubes. 50 condenser tubes. 2 brass guards, air pump. Air pump rod. 4 feed pump valves & seats, & 2 helge details. Main bearing bush. The foregoing is a correct description, Centrif. pump spindle. Assorted bolts & nuts, fire bars, tube stopper & escape valve springs etc.*

Harland & Wolff Ltd Manufacturer.

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

The machinery has been constructed under special survey, in accordance with the Rules & with the approved tracings of the boilers. Each length of main steam pipe has been tested to double the working pressure as required.

The engines & boilers are practically duplicates of those fitted in the S.S. "Kempmores" (Belfast report No 4337).

The pumping arrangements are fitted in accordance with the Rules & the enclosed photoprint.

A report on the electric lighting installation fitted by Messrs H. Allen & Co. will be forwarded shortly.

Photoprints of the boilers & engine pumping arrangements & invoice notes for the boiler plates & flues are forwarded herewith.

The machinery in my opinion renders the vessel eligible for the record of **+ L.M.C. 12.94** in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 12-94

The Boilers to be recorded as follows
PDBESB 1848 G3318 HS 10510 (3) 11-12-94

APR 14-12-94

Certificate (if required) to be sent to

The amount of Entry Fee... £ **3 : 0** : **0** : **3** MACHINERY CERTIFICATE WRITTEN.
Special ... £ **50** : **10** : **0** : **0** : When applied for, 8 Dec. 1894
Donkey Boiler Fee ... £ : : : : When received, 11/13/94
Travelling Expenses (if any) £ : : : : 12

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

Committee's Minute

TUES. 11 DEC 1894

Assigned

+ L.M.C. 12.94



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Foundation