

REPORT ON BOILERS.

Port of Belfast
 Received at London Office WED. 20 DEC 1905
 No. in Survey held at Belfast Date, first Survey Feb 27th Last Survey Dec. 14 1905
 Reg. Book. S.S. Malakand (Number of Visits 50)
 on the Belfast Built at Belfast By whom built Harland & Wolff When built 1905
 Engines made at Belfast By whom made Harland & Wolff when made 1905
 Boilers made at _____ By whom made _____ when made _____
 Registered Horse Power _____ Owners J. Brackelbank Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel D. Colville & Sons Ltd

(Letter for record 305) Total Heating Surface of Boilers 4212 sq ft forced draft fitted No No. and Description of Boilers 2 Single End Cylinders
 Working Pressure 210 lb Tested by hydraulic pressure to 430 lb Date of test 13-10-05
 No. of Certificate 305 Can each boiler be worked separately Yes Area of fire grate in each boiler 57 1/2 sq ft and Description of safety valves to each boiler 2 - 4 West Springs Area of each valve 7.07 sq in Pressure to which they are adjusted 215 lb
 Are they fitted with easing gear Yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No
 Smallest distance between boilers or uptakes and bunkers or woodwork About 40 Mean dia. of boilers 14'-5 1/2" Length 10'-6"
 Material of shell plates Steel Thickness 1 1/2" Range of tensile strength 29-82 Are the shell plates welded or flanged No
 Descrip. of riveting: cir. seams Lap Long. seams Butt Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 10"
 Lap of plates on width of butt straps 22 1/2" Per centages of strength of longitudinal joint rivets 93.2 Working pressure of shell by rules 246 lb plate 84.3
 Size of manhole in shell 16" x 12" Size of compensating ring 16" No. and Description of Furnaces in each boiler 3 - 2 Right
 Description of longitudinal joint Weld No. of strengthening ring 2 To an Working pressure of furnace by the rules 244 lb Combustion chamber plates: Material Steel Thickness: Sides 19/32" Back 5/8" Top 19/32" Bottom 3/4" Pitch of stays to ditto: Sides 7 1/2" x 7 1/2" Back 8 1/2" x 7 1/2"
 Top 7 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 216 lb Material of stays Steel Diameter at smallest part 3 1/8" Area supported by each stay 54 1/2 sq in Working pressure by rules 218 lb plates in steam space: Material Steel Thickness 1 3/16"
 Pitch of stays 16" x 14 1/2" How are stays secured Nuts inside Working pressure by rules 280 lb Material of stays Steel Diameter at smallest part 2 1/2" - 2 3/8"
 Area supported by one stay 232 sq in Working pressure by rule 240 lb Material of Front plates at bottom Steel Thickness 4 1/2" Material of Lower back plate Steel Thickness 1 5/16" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 604 lb Diameter of tubes 4" x 4"
 Pitch of tubes 4" x 4" Material of tube plates Steel Thickness: Front 15/16" Back 9/16" Mean pitch of stays 8" x 8" Pitch across wide water spaces 14" Working pressures by rule 238 lb with 1/4" Double Chamber tops: Material Iron Depth and thickness of girder at centre 8" x (8" x 2) Length as per rule 27 1/2" Distance apart 7 1/2" Number and pitch of Stays in each 3 - 7 1/8"
 Working pressure by rules 253 lb 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 _____

VERTICAL DONKEY BOILER— No. _____ Description _____ Manufacturers of steel _____

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 _____ 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 _____ 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 _____ Stayed by _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

The foregoing is a correct description,
Harland & Wolff Ltd Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - - }
 Total No. of visits _____
See other sheet

Is the approved plan of main boiler forwarded herewith _____
 " " " donkey " " _____
 Lloyd's Register Foundation



If not state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

Donkey Pumps. & Spare Lem.
 Weirs 12 1/2" x 9 1/2" x 28" Feed
 Woodsons 7" x 5" x 12" Auxiliary Feed
 Watsons 12" x 10" x 14" Ballast
 Howland Muffs 9" x 6" x 10" General
 Crocker Pump set

1 Propeller Blade.
 Pair crank pin brasses
 Crosshead
 Air pump buckets rod, complete
 head valve
 Sets piston rings H.P. & I.P.
 H.P. valve spindle neck bush
 I.P.
 Impeller & spindle for Circulating Pump.
 Eccentric strap complete.
 4 Cylinder escape valve springs
 Condenser tubes.
 Set 2 tube nuts for Cylinder flanks.
 Feed pump, escape valve spring
 Water tubes set, and all gear to Lloyd's
 Rules extra.

Certificate (if required) to be sent to

The amount of Entry Fee...	£	:	:	When applied for.
Special	£	:	:	16/12/1905
Donkey Boiler Fee ...	£	:	:	When received.
Travelling Expenses (if any) £	:	:	:	19

R. J. Bennett
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

FRI. 22 DEC 1905

Committee's Minute

Assigned

