

REPORT ON BOILERS.

No. 10,176

Received at London Office 23 MAY 1929

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of writing Report 22nd May 1929 When handed in at Local Office 22nd May 1929 Port of *Belfast*
 in Survey held at *Belfast* Date, First Survey *1st January* Last Survey *20th May* 1929
 on the *ULE* (Number of Visits *15*) Tons Gross
 ter Built at *Belfast* By whom built *Harland & Wolff Ltd.* Yard No. *862* When built *1929*
 ines made at *Belfast* By whom made *Harland & Wolff Ltd.* Engine No. *862* When made *1929*
 rs made at *Belfast* By whom made *Harland & Wolff Ltd.* Boiler No. *862* When made *1929*
 inal Horse Power *228* Owners *Large Shipping Co. Ltd. (A. Wei & Co. Mgrs.)* Port belonging to *London*

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *David Colville & Sons Ltd.* (Letter for Record *5*)
 Heating Surface of Boilers *4360 sq ft* Is forced draught fitted *no* Coal or Oil fired *Oil*
 and Description of Boilers *Two single-ended, cylindrical, multitubular* Working Pressure *180 lba*
 ed by hydraulic pressure to *320 lba* Date of test *22.4.29* No. of Certificate *932* Can each boiler be worked separately *Yes*
 of Firegrate in each Boiler *✓* No. and Description of safety valves to each boiler *Two spring-loaded high-lift*
 of each set of valves per boiler {per Rule *3* of 13.77 = 9.18" as fitted *9.82"* Pressure to which they are adjusted *180 lb* Are they fitted with easing gear *Yes*
 use of donkey boilers, state whether steam from main boilers can enter the donkey boiler
 llest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers *no*
 llest distance between shell of boiler and tank top plating *Open bilge* Is the bottom of the boiler insulated *Yes*
 est internal dia. of boilers *14'-6 1/2"* Length *11'-0"* Shell plates: Material *Steel* Tensile strength *28-32 Tons*
 kness *1 1/4"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams {end *double* inter. *✓*
 seams *heble d.b.s.* Diameter of rivet holes in {circ. seams *1 5/16"* Pitch of rivets { *3.63"* long. seams *1 5/16"* *9"*
 entage of strength of circ. end seams {plate *63.8* rivets *48.9* Percentage of strength of circ. intermediate seam {plate *85.4* rivets *90.8*
 entage of strength of longitudinal joint {plate *85.4* rivets *90.8* Working pressure of shell by Rules *189.5 lba*
 kness of butt straps {outer *1 5/16"* inner *1 1/8"* No. and Description of Furnaces in each Boiler *Three Morrison*
 erial *Steel* Tensile strength *26-30 Tons* Smallest outside diameter *41 5/8"*
 gth of plain part {top *✓* bottom *✓* Thickness of plates {crown *7/16"* Description of longitudinal joint *weld*
 ensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules *196 lba*
 l plates in steam space: Material *Steel* Tensile strength *26-30 Tons* Thickness *1 1/4"* Pitch of stays *20 1/2" x 20 1/2"*
 are stays secured *Screwed into end plates, double nuts & washers* Working pressure by Rules *185 lba*
 e plates: Material {front *Steel* back *Steel* Tensile strength { *26-30 Tons* Thickness { *7/8"* *13/16"*
 n pitch of stay tubes in nests *8 7/8"* Pitch across wide water spaces *14 1/4"* Working pressure {front *187 lba* back *245 lba*
 lders to combustion chamber tops: Material *Steel* Tensile strength *28-32 Tons* Depth and thickness of girder
 centre *9'-1 3/4"* Length as per Rule *33"* Distance apart *10 1/4"* No. and pitch of stays
 ach *three 8"* Working pressure by Rules *199 lba* Combustion chamber plates: Material *Steel*
 sile strength *26-30 lba* Thickness: Sides *3/4"* Back *1/16"* Top *3/4"* Bottom *3/4"*
 h of stays to ditto: Sides *9 3/4" x 8"* Back *9 3/8" x 8 1/4"* Top *10 1/4" x 8"* Are stays fitted with nuts or riveted over *nuts*
 rking pressure by Rules *212 lba* Front plate at bottom: Material *Steel* Tensile strength *26-30 Tons*
 kness *7/8"* Lower back plate: Material *Steel* Tensile strength *26-30 Tons* Thickness *13/16"*
 h of stays at wide water space *13 1/4" x 8 1/4"* Are stays fitted with nuts or riveted over *nuts*
 rking Pressure *220 lba* Main stays: Material *Steel* Tensile strength *28-32 Tons*
 meter {At body of stay, *3 1/4"* No. of threads per inch *FIVE* Area supported by each stay *420.25 sq"*
 Over threads
 rking pressure by Rules *186 lba* Screw stays: Material *Steel* Tensile strength *26-30 Tons*
 meter {At turned off part, *1 5/8"* *1 3/4"* No. of threads per inch *TEN* Area supported by each stay *77.34 sq"*
 Over threads

See Ref letter 30.5.29

Working pressure by Rules 1974 Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, or Over threads 1 3/4" 1 7/8" 2"

No. of threads per inch TEN Area supported by each stay 93.3 sq" Working pressure by Rules 1944

Tubes: Material mild iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { no. 7 S.M.S. 1/4" 5/16" 3/8" No. of threads per inch TEN

Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules plain 300 lb Stay 306 lb Manhole compensation: Size of open shell plate 16" x 12" Section of compensating ring 36" x 32" x 1 1/8" dentle No. of rivets and diameter of rivet holes 28 - 1 1/8"

Outer row rivet pitch at ends 8" Depth of flange if manhole flanged ✓ Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets

Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes and of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of { Tubes Steel castings

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off from the boiler

the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Area of each safety valve Are the safety valves fitted with easing gear Working pressure

Rules Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes, castings and after assembly in place Are drain cocks or valves to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
for **HARLAND AND WOLFF, LIMITED,** Manufacture

Dates of Survey while building { During progress of work in shops - - 1929 Jan 1, 22 Feb 9, 13, 18, 22 Are the approved plans of boiler and superheater forwarded herewith 13.12.22 (If not state date of approval.)

{ During erection on board vessel - - - 26. Mar 13. 20 Apr 5. 15 May 1, 6, 7, 20 Total No. of visits 15

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

These boilers were constructed under Special Survey to an approved design. The materials & workmanship are good. They were subjected to hydraulic test in accordance with the rules, and were efficiently fastened on board the vessel. The safety valves were adjusted to the working pressure under steam.

Survey Fee £ See Michy Report When applied for, 192

Travelling Expenses (if any) £ See Michy Report When received, 192

R. Lee Ames.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE. 28 MAY 1929

Assigned See Rpt attached