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pt. 5a.

# REPORT ON BOILERS.

No. 15109

Received at London Office. 19 JAN 1951

by Rules...  
Actual...  
Date of writing Report 15 Nov 50. When handed in at Local Office 17/11/51 Port of Belfast  
Included in rpt H.B.  
by Rules... No. in Survey held at Belfast Date, First Survey Last Survey 19  
Actual...  
on the M.V. LAGANFIELD  
(Number of Visits...)  
Gross...  
Net...  
rate fuel tanks (aster... Built at Belfast By whom built Harland & Wolff Ltd Yard No. 1418 When built 1950  
yes Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 1418 When made 1950  
Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 1418 When made 1950  
Nominal Horse Power Owners Hunting, Sons Ltd Port belonging to Newcastle on Tyne

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles (Letter for Record S...)  
Total Heating Surface of Boilers 2047 x 2 ft Is forced draught fitted Yes Coal or Oil fired Oil & Skt gas  
No. and Description of Boilers 2 Cylindrical smoke tube type Working Pressure 150 lbs  
Tested by hydraulic pressure to 275 lbs Date of test 9.10.50 No. of Certificate 1468 Can each boiler be worked separately Yes  
Area of Firegrate in each Boiler 7.75 sq ft No. and Description of safety valves to each boiler 2 1/2" Improved High Lift Double 3/4" into 3/4" outlet  
Area of each set of valves per boiler per Rule 7.95 sq ft Pressure to which they are adjusted 150 lbs 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 Is oil fuel carried in the double bottom under boilers no  
Smallest distance between shell of boiler and tank top plating 29/32" Is the bottom of the boiler insulated no  
Largest internal dia. of boilers 12' 10 3/16" Length 11' 6" Shell plates: Material Steel Tensile strength 29-33 tons  
Thickness 29/32" Are the shell plates welded or flanged no Description of riveting: circ. seams end DR. inter. Yes  
long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 3/32" Pitch of rivets 3.08  
long. seams 1 1/32" Pitch of rivets 6.9/16  
Percentage of strength of circ. end seams plate 64.5 rivets 53.0 Percentage of strength of circ. intermediate seam plate 84.3 rivets 104  
Percentage of strength of longitudinal joint rivets 89.3 combined 89.3 Working pressure of shell by Rules 155 lbs  
Thickness of butt straps outer 23/32" inner 27/32" No. and Description of Furnaces in each Boiler 2 Right; Corrugated  
Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-8"  
Length of plain part top bottom Thickness of plates crown 1/2" bottom 1/2" Description of longitudinal joint fork weld  
Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 163 lbs  
End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 15/16" Pitch of stays 16x16  
How are stays secured DN.W. Working pressure by Rules As approved  
Tube plates: Material front Steel back Steel Tensile strength 26-30 tons Thickness 3/4"  
Mean pitch of stay tubes in nests 8 5/16" Pitch across wide water spaces 13 1/2" Working pressure front back As approved  
Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder at centre 9 1/2" x 1 1/32" Length as per Rule 32 1/2" Distance apart 9 3/8" No. and pitch of stays in each Welded Working pressure by Rules As approved Combustion chamber plates: Material Steel Tensile strength 26-30 tons Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"  
Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" x 9" Back 8 1/4" x 9 1/2" Top Are stays fitted with nuts or riveted over Shell - others welded  
Working pressure by Rules As approved Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 15/16"  
Pitch of stays at wide water space 16 1/4" x 9 1/2" Are stays fitted with nuts or riveted over Welded  
Working pressure As approved Main stays: Material Steel Tensile strength 28-32 tons  
Diameter At body of stay 2 3/4" No. of threads per inch 6 Area supported by each stay Various  
Working pressure by Rules As approved Screw stays: Material Steel Tensile strength 26-30 tons  
Diameter At turned off part 1 1/2" No. of threads per inch 19 Area supported by each stay 9 1/2" x 8 1/4"  
Welded in Combustion Chamber



Working pressure by Rules. *As approved* Are the stays drilled at the outer ends. ☒ Margin stays: Diameter { At turned off part. *1 3/4" x 2"*  
or  
Over threads. *1 3/4" x 2"*  
No. of threads per inch. *Welded* Area supported by each stay. *14" x 9 1/2"* Working pressure by Rules. *As approved*  
Tubes: Material. *H. O. S.* External diameter { Plain. *2 1/2"* Thickness. *10 LSG* No. of threads per inch. *9*  
Stay. *2 1/2"* STAY. *1/4" 5/16" 3/32"*  
Pitch of tubes. *3 3/4" x 3 5/8"* Working pressure by Rules. *As approved* Manhole compensation: Size of opening  
shell plate. *13 3/4" x 17 3/4"* Section of compensating ring. *2' 8" x 2' 4" x 7/8"* No. of rivets and diameter of rivet holes. *Welded 6 shell*  
Outer row rivet pitch at ends. 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  
stays. Inner radius of crown. Working pressure by Rules.  
How connected to shell. Size of doubling plate under dome. Diameter of rivet holes and pitch  
of rivets in outer row in dome connection to shell.  
Type of Superheater. Manufacturers of { Tubes.  
Steel forgings.  
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 and  
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 as per  
Rules. Pressure to which the safety valves are adjusted. Hydraulic test pressure  
tubes. forgings and castings. and after assembly in place. Are drain cocks  
valves fitted to free the superheater from water where necessary.  
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with.

For HARLAND AND WOLFE LIMITED

The foregoing is a correct description,

*Fred R. Shaw*

Manufactured

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith. *Yes*  
while building { During erection on board vessel - - - } (If not state date of approval.) *See approval letter dated London 2nd June 1946*  
Total No. of visits.

Is this Boiler a duplicate of a previous case. *Yes*. If so, state Vessel's name and Report No. *British Explorer. Rpt No. 150*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
*The boilers have been built under special survey in accordance with the Rules and approved plan.*  
*The materials and workmanship are good.*  
*The boilers have been satisfactorily installed in the vessel tested under working conditions and found in good order. Safety valves adjusted under steam as stated above.*

Survey Fee ... £ *59 : 2* : } When applied for, *17/1/1951*  
Travelling Expenses (if any) £ : : } When received, *19*

*S. W. Barchin*  
Engineer Surveyor to Lloyd's Register of Shipping

FRI. 9 FEB 1951

Committee's Minute.  
Assigned. *See F.E. Welch. rpt.*