

## REPORT ON BOILERS.

No. 120255

Received at London Office 24 NOV 1943

Date of writing Report 6-11 1943. When handed in at Local Office

Port of Liverpool

No. in Reg. Book. Survey held at Lytham & Preston Date, First Survey 18/11/41 Last Survey 28/10/1943  
 on the Steel Screw "FRESHWELL" (Number of Visits 63) Tons { Gross 282.91 Net 92.82

Master Built at Lytham By whom built Lytham S.B. & Co. Yard No. 843 When built 1943  
 Engines made at Lytham By whom made Lytham S.B. & Co. Engine No. 552 When made 1943  
 Boilers made at Lytham By whom made Lytham S.B. & Co. Boiler No. 551 When made 1943  
 Nominal Horse Power 90 Owners The Admiralty Port belonging to London

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

Manufacturers of Steel SHELL-Steel Company of Holland, ENDS - Balvele & INT'S CONSULT (Letter for Record SB, S)  
 Total Heating Surface of Boilers 1600 sq ft Is forced draught fitted yes Coal or Oil fired Coal  
 No. and Description of Boilers One single ended multitubular cylindrical (steel) type Working Pressure 180 lbs/sq in  
 Tested by hydraulic pressure to 320 lbs/sq in Date of test 12-7-43 No. of Certificate 2602 Can each boiler be worked separately ✓  
 Area of Firegrate in each Boiler 46.5 sq ft No. and Description of safety valves to each boiler Two - 2 3/4 dia. Spring Loaded  
 Area of each set of valves per boiler { per Rule 10.25 sq in as fitted 11.87 sq in Pressure to which they are adjusted 180 lbs/sq in Are they fitted with easing gear yes  
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓  
 Smallest distance between boilers or uptakes and bunkers or woodwork 8 1/2" Is oil fuel carried in the double bottom under boilers ✓  
 Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated No  
 Largest internal dia. of boilers 12'-9 15/16" Length 10'-6" Shell plates: Material Steel Tensile strength 29-32 Tons/sq in  
 Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end DR inter. ✓  
 long. seams T.R. DRS. Diameter of rivet holes in { circ. seams 1 3/32" long. seams 1 3/32" Pitch of rivets { 3 7/8" 4 3/4"  
 Percentage of strength of circ. end seams { plate 64% rivets 42.8% Percentage of strength of circ. intermediate seam { plate 85.8% rivets ✓  
 Percentage of strength of longitudinal joint { plate 84.3% rivets 89.1% Working pressure of shell by Rules 182.2  
 Thickness of butt straps { outer 25/32" inner 29/32" No. and Description of Furnaces in each Boiler 3 Deighton type, with hidden lower  
 Material Steel Tensile strength 26-30 Tons/sq in Smallest outside diameter 33 5/8" Back boiler  
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 7/16" bottom 7/16" Description of longitudinal joint Welded  
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules Approved  
 End plates in steam space: Material Steel Tensile strength 26-30 Tons/sq in Thickness 1 3/32" Pitch of stays 14 1/4" x 14 1/4"  
 How are stays secured Double nuts Working pressure by Rules Approved  
 Tube plates: Material { front Steel back Steel Tensile strength { 26-30 Tons/sq in Thickness { 7/8" 25/32"  
 Mean pitch of stay tubes in nests 9 x 11 3/32" Pitch across wide water spaces 14 1/2" Working pressure { front Approved back Approved  
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 Tons/sq in Depth and thickness of girder  
 at centre 8 3/8" x 15 1/16" (Double plates) Length as per Rule 31 1/2" Distance apart 11" No. and pitch of stays  
 in each Two @ 9 7/8" Working pressure by Rules Approved Combustion chamber plates: Material Steel  
 Tensile strength 26-30 Tons/sq in Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"  
 Pitch of stays to ditto: Sides 10 3/4" x 9 7/8" Back 10 x 10 7/8" Top 11 x 9 7/8" Are stays fitted with nuts or riveted over Nuts  
 Working pressure by Rules Approved Front plate at bottom: Material Steel Tensile strength 26-30 Tons/sq in  
 Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 Tons/sq in Thickness 7/8"  
 Pitch of stays at wide water space 14 3/4" x 10" Are stays fitted with nuts or riveted over Nuts  
 Working Pressure Approved Main stays: Material Steel Tensile strength 28-32 Tons/sq in  
 Diameter { At body of stay, 2 5/8" or 3" No. of threads per inch 6 Area supported by each stay 289 sq in  
 Working pressure by Rules Approved Screw stays: Material Steel Tensile strength 26-30 Tons/sq in  
 Diameter { At turned off part, 1 1/4" or 1 7/8" No. of threads per inch 9 Area supported by each stay 109.375 sq in



Working pressure by Rules *Approved*. Are the stays drilled at the outer ends *Lo.* Margin stays: Diameter { At turned off part, *1.86.*  
or  
Over threads *2"*  
No. of threads per inch *9.* Area supported by each stay *128.75 sq in* Working pressure by Rules *Approved.*  
Tubes: Material *Seamless* External diameter { Plain *3 1/4"* Thickness { *8 WG*  
Stay *3 1/4"* No. of threads per inch *9"*  
Pitch of tubes *4 1/2" x 4 9/16"* Working pressure by Rules *Approved.* Manhole compensation: Size of opening in  
shell plate *20" x 16"* Section of compensating ring *2 1/2" x 2 1/2" x 1 1/4"* No. of rivets and diameter of rivet holes *32 @ 1 1/16"*  
Outer row rivet pitch at ends *9"* Depth of flange if manhole flanged *3 1/2"* 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 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 or  
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 *yes*

The foregoing is a correct description,

THE LYTHAM SHIPBUILDING and  
ENGINEERING COMPANY, LIMITED Manufacturer.

Dates of Survey { During progress of work in shops - -  
while building { During erection on board vessel - - -  
Are the approved plans of boiler and superheater forwarded herewith  
(If not state date of approval.)  
Total No. of visits

Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *"FRESHPOOL" (See Ref) 119768*

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

*This Boiler has been constructed under special survey in accordance with the approved plans and the Society's Rules. The material & workmanship are sound & good. The boiler has been satisfactorily fitted on board, examined under steam and the safety valves adjusted under steam to the approved working pressure.*

*It is eligible in my opinion to be classed in the Register Book with notation: - 1 SB, F.D. 300 - 180 lbs/sq in.*

Survey Fee ... *Included on the Machinery Report* When applied for, 10  
Travelling Expenses (if any) *✓* When received, 10

*J.R. Lindley*  
Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute *LIVERPOOL 23 NOV 1913*

Assigned *Transmit to London.*



© 2021

Lloyd's Register  
Foundation