

## REPORT ON BOILERS.

No. 124449.

Received at London Office

21 SEP 1946

Date of writing Report 9-8

10 46 When handed in at Local Office

10 Port of

No. in  
Reg. Book.

Survey held at Lytham, Preston, Fleetwood Date, First Survey

15/9/44

Last Survey

6/8/

1946

on the

Steel Screw "FRESHSPRAY"

(Number of Visits 45)

Tons

Gross 282.91

Net 92.82

Master

Built at

Lytham

By whom built

Lytham S.S. &amp; C. Co.

Yard No.

885.

When built 1946

Engines made at

Lytham

By whom made

- do -

Engine No.

557

When made 1946

Boilers made at

do

By whom made

- do -

Boiler No.

556

When made 1946

Nominal Horse Power

90

Owners

The Admiralty

Port belonging to

London.

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

Manufacturers of Steel

Steel: Steel of Scotland, ENDS: Bolinder &amp; Co. INTERNAL: Bolinder &amp; Co.

(Letter for Record "SB")

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 bylinarical (Steel) Type

Working Pressure 180 lb/sq in.

Tested by hydraulic pressure to

320 lb/sq in.

Date of test

14-2-46

No. of Certificate

2684

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 lb/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

No.

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

Largest internal dia. of boilers

12'-9 1/2"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

{ end D.R.

long, seams T.R. D.R.S.

Diameter of rivet holes in

{ circ. seams 1 3/32"

{ long, seams 1 1/2"

Pitch of rivets

{ 3 3/8"

{ 7 3/4"

Percentage of strength of circ. end seams

{ plate 67%

{ rivets 42.8%

Percentage of strength of circ. intermediate seam

{ plate 85.8%

{ rivets 87.0%

Percentage of strength of longitudinal joint

{ plate 87.0%

{ rivets 89%

Working pressure of shell by Rules 182.2 lb/sq in.

Thickness of butt straps

{ outer 25/32"

{ inner 25/32"

No. and Description of Furnaces in each Boiler

Eighteen Type (3) Section Gantry back ends

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

33 5/8"

Length of plain part

{ top 4 1/2"

{ bottom 4 1/2"

Thickness of plates

{ crown 7/16"

{ bottom 7/16"

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or e.c. bottom

✓

Working pressure of furnace by Rules 17 1/4" x 17 3/4"

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 3/32"

Pitch of stays

How are stays secured

Double nuts.

Working pressure by Rules

Approved.

Tube plates: Material

{ front Steel

{ back - do -

Tensile strength

26-30 tons

Thickness

7/8"

Working pressure

{ front Approved

{ back - do -

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 - do -

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre 8 3/8" x 15 1/2" (Double)

Length as per Rule

31 1/2"

Distance apart

11"

No. and pitch of stays

in each Two at 9 7/8"

Working pressure by Rules

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

10 3/4" x 9 7/8"

Back

10" x 9 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

Thickness

7/8"

Lower back plate: Material

Steel.

Tensile strength

26-30 tons

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.

Diameter

{ At body of stay, 2 5/8"

{ Over threads 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.

Diameter

{ At turned off part, 1 7/8"

{ Over threads 1 7/8"

No. of threads per inch

9

Area supported by each stay

1078, 1063.



Working pressure by Rules *Approved*. Are the stays drilled at the outer ends *no*. Margin stays: Diameter { At turned off part, *1.86* or Over threads *8"* }  
No. of threads per inch *9*. Area supported by each stay *128.75 sq*. Working pressure by Rules *Approved*.  
Tubes: Material *chamber steel* External diameter { Plain *3 1/4* Stay *3 1/4* } Thickness { *8 W.G.* *1/4", 5/16", 3/8"* } 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 3/16"*.  
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 of 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 & ENGINEERING COMPANY, LIMITED Manufacturer

Dates { During progress of work in shops - - }  
of Survey { During erection on board vessel - - }  
while building

*See Machinery Dept.*

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. *FRESHPOND See Report No 12366*

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

*This boiler has been constructed under special survey and in accordance with the approved plan and the Society's Rules. The materials and workmanship are sound and 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 S.P. F.D. - 3 C.F. - 180 lb./sq.*

Survey Fee *See Machinery Dept.*

When applied for,

19

Travelling Expenses (if any) £

When received,

19

*H. Lindley*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

*Transmit to London.*

LIVERPOOL

10 SEP 1946

20 SEP 1946

*See F.E. machinery*

Lloyd's Register Foundation