

REPORT ON BOILERS.

No. 32601

Date of writing Report

192

When handed in at Local Office

29 MAR 1939

Received at London Office

MAR 30 1939

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND

Date, First Survey

Last Survey March 25 1939

on the

S.S. BRET WALDA

(Number of Visits)

Gross 4906

Tons Net 2766

Master

Built at Sunderland

By whom built

J. H. Thompson & Co., Ltd. No. 691 When built 1939

Engines made at

Sunderland

By whom made

R. E. Marine Eng. Co. (1938) Ltd. Engine No. 2920 When made 1939

Boilers made at

do

By whom made

do

Boiler No.

do

When made

do

Nominal Horse Power

365

Owners

Hall Bros

Port belonging to

Newcastle

MULTITUBULAR BOILERS MAIN, ~~AUXILIARY~~, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland.

(Letter for Record S)

Total Heating Surface of Boilers

3840 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

2. Cylindrical multitubular

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380 lbs

Date of test 12/10/38 No. of Certificate 4286/7/8

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

41 sq ft

No. and Description of safety valves to each boiler

2 direct spring

Area of each set of valves per boiler

per Rule 10.38 sq in

as fitted 11.88 sq in

Pressure to which they are adjusted

220 lbs

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

24 in

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

30 in

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13'-6 3/8 in

Length

12'-4 1/2 in

Shell plates: Material

steel

Tensile strength

29/33 tons/sq in

Thickness

1 5/16 in

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R.L.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 3/8 in

long. seams

1 3/8 in

Pitch of rivets

4 in

9 1/2 in

Percentage of strength of circ. end seams

plate 65.6

rivets 44.5

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.52

rivets 88.54

combined 88.76

Working pressure of shell by Rules

222 lbs.

Thickness of butt straps

outer

1 in

inner

1 1/8 in

No. and Description of Furnaces in each Boiler

3 Slighton Stephen Gurney nicks.

Material

steel

Tensile strength

26/30 tons/sq in

Smallest outside diameter

3'-2 7/16 in

Length of plain part

top

bottom

Thickness of plates

crown

19/32 in

bottom

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

224 lbs.

End plates in steam space: Material

steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/4 in

Pitch of stays

19 3/8 x 16 3/4 in

How are stays secured

double nuts

Working pressure by Rules

222 lbs.

Tube plates: Material

front

steel

back

steel

Tensile strength

26/30 tons/sq in

Thickness

7/8 in

13/16 in

Mean pitch of stay tubes in nests

10 1/4 in

Pitch across wide water spaces

14 in x 7 3/8 in

Working pressure

front 228 lbs.

back 243 lbs.

Girders to combustion chamber tops: Material

steel

Tensile strength

29/33 tons/sq in

Depth and thickness of girder

at centre

10 5/8 in x 2 1/2 in

Length as per Rule

46 1/2 in

Distance apart

9 1/4 in

No. and pitch of stays

in each

3 & 11 1/8 in

Working pressure by Rules

228 lbs.

Combustion chamber plates: Material

steel

Tensile strength

26/30 tons/sq in

Thickness: Sides

27/32 in

Back

19/16 in

Top

27/32 in

Bottom

27/32 in

Pitch of stays to ditto: Sides

11 1/8 in x 10 in

Back

11 1/2 in x 8 3/8 in

Top

11 1/8 in x 9 1/4 in

Are stays fitted with nuts or riveted over

nuts fitted

Working pressure by Rules

225 lbs.

Front plate at bottom: Material

steel

Tensile strength

26/30 tons/sq in

Thickness

7/8 in

Lower back plate: Material

steel

Tensile strength

26/30 tons/sq in

Thickness

3/32 in

Pitch of stays at wide water space

14 1/4 in x 11 1/2 in

Are stays fitted with nuts or riveted over

nuts fitted

Working Pressure

224 lbs.

Main stays: Material

steel

Tensile strength

28/32 tons/sq in

Diameter

At body of stay,

3 1/8 in

or

3 1/2 in

No. of threads per inch

6

Area supported by each stay

16 3/4 in x 19 3/8 in

Working pressure by Rules

262 lbs.

Screw stays: Material

steel

Tensile strength

26/30 tons/sq in

Diameter

At turned off part,

1 7/8 in

or

1 7/8 in

No. of threads per inch

9

Area supported by each stay

11 1/2 in x 8 3/8 in

Working pressure by Rules 222 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2" ✓
or
Over threads
No. of threads per inch 9 Area supported by each stay 11 1/16" x 10 1/4" Working pressure by Rules 220 lbs
Tubes: Material Steel External diameter { Plain 2 1/2" ✓
Stay 2 1/2" ✓ Thickness { 8.4.6. ✓
1 1/2", 1 1/16", 1 1/8", 1 1/16" No. of threads per inch 9
Pitch of tubes 4" x 3 1/16" Working pressure by Rules 234 lbs Manhole compensation: Size of opening
END
Shell plate 16" x 12" Section of compensating ring — No. of rivets and diameter of rivet holes —
Outer row rivet pitch at ends — Depth of flange if manhole flanged 3 7/8" ✓ 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 Combustion Chamber Manufacturers of { Tubes Stewarts & Lloyd
Steel castings Stewarts & Lloyd
Number of elements 26 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1.023", 7.4.6.
Material of headers 4, S.D. Steel Tensile strength 26/38 tons Thickness 1" Can the superheater be shut off at any
the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
Area of each safety valve 3.14 12" Are the safety valves fitted with easing gear yes Working pressure as per
Rules 220 lbs Pressure to which the safety valves are adjusted 220 lbs Hydraulic test pressure —
tubes 1500 lbs. castings 660 lbs. and after assembly in place 500 lbs. Are drain cocks or valves fitted
to free the superheater from water where necessary yes
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.

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

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

These boilers have been constructed under special survey
in accordance with the approved plans, Secretary's letters and the
requirements of the Rules. Workmanship and materials are good
In recommendation plan on Rpt 4.

L.R. Horn

Survey Fee ... £ See Rpt 4 When applied for, 192
Travelling Expenses (if any) £ When received, 192

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute WED 12 APR 1939

Assigned

See Std. 76, 3260



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Lloyd's Register
Foundation