

REPORT ON BOILERS.

No. 34144

Received at London Office 26 FEB 1945

Date of writing Report

19

When handed in at Local Office

15 FEB 1945

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey 12th Feb 1945.

on the

9th EMPIRE MAURITIUS

(Number of Visits)

Tons

Gross 7309.66

Net 5094.32

Built at Sunderland

By whom built

Barnham & Son, Ltd

Yard No. 302 When built 1945

Engines made at

Glasgow

By whom made

Newcomen Stuart & Co. Ltd.

Engine No. 215 When made 1945

Boilers made at

Sunderland

By whom made

R. S. Martin Eng. Co. (1938), Ltd.

Boiler No. 4100 When made 1945

Nominal Horse Power

509

Owners

M. D. W. T.

Madelay, McIntyre, Ltd

Port belonging to Sunderland

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

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record S ✓)

Total Heating Surface of Boilers

4248 sq ft

Is forced draught fitted

yes ✓

Coal or Oil fired

oil ✓

No. and Description of Boilers

3 Single ended cylindrical

Working Pressure 220 lb. ✓

Tested by hydraulic pressure to

380 lb.

Date of test 27.9.44

No. of Certificate 4565

Can each boiler be worked separately

yes ✓

Area of Firegrate in each Boiler

55 sq ft

No. and Description of safety valves to each boiler

2 Improved High Lift ✓

Area of each set of valves per boiler

(per Rule 6.520" 6.420"

as fitted 7.950"

Pressure to which they are adjusted

220 lb.

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

1' 10" X

Is oil fuel carried in the double bottom under boilers

no ✓

Smallest distance between shell of boiler and tank top plating

24"

Is the bottom of the boiler insulated

yes ✓

Largest internal dia. of boilers

15' 0 1/16" Length 11' 8 1/32"

Shell plates: Material

Steel ✓

Tensile strength

29/33 ✓

Thickness

1 15/32" ✓

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 3 1/2" ✓

Pitch of rivets

4 1/8" ✓

Percentage of strength of circ. end seams

plate 63.6

rivets 46.1

Percentage of strength of circ. intermediate seam

plate —

rivets —

Percentage of strength of longitudinal joint

plate 85.5

rivets 86.2

combined 88.3

Thickness of butt straps

outer 1 1/8" ✓

inner 1 1/4" ✓

No. and Description of Furnaces in each Boiler

3 Single ended: Stephen-Jewell make. ✓

Material

Steel

Tensile strength

26/30 ✓

Smallest outside diameter

3-9 3/4" ✓

Length of plain part

top —

bottom —

Thickness of plates

crown 1 1/16" ✓

bottom —

Description of longitudinal joint

weld ✓

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

—

End plates in steam space: Material

Steel ✓

Tensile strength

26/30 ✓

Thickness

1 13/32" ✓

Pitch of stays

19 3/4" x 19 5/8" ✓

How are stays secured

double-nuts ✓

Tube plates: Material

front } Steel ✓

back }

Tensile strength

{ 26/30 ✓

Thickness

15/16" ✓

25/32" ✓

Mean pitch of stay tubes in nests

9 7/8" ✓

Pitch across wide water spaces

14" x 8 1/4" ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28/32 ✓

Depth and thickness of girder

at centre 10 1/2" x 13 1/8"

Length as per Rule

3 1/2" ✓

Distance apart

9 1/4" ✓

No. and pitch of stays

in each 3 x 8" ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26/30 ✓

Thickness: Sides

25/32" ✓

Back 25/32" ✓

Top

1 1/16" ✓

Bottom 7/8" ✓

Pitch of stays to ditto: Sides

9 1/4" x 8" ✓

Back 9 7/8" x 9 1/4" ✓

Top

9 1/4" x 8" ✓

Are stays fitted with nuts or riveted over

nuts fitted ✓

Front plate at bottom: Material

Steel ✓

Tensile strength

26/30 ✓

Thickness

15/16" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26/30 ✓

Thickness

15/16" ✓

Pitch of stays at wide water space

14 1/8" x 9 7/8" ✓

Are stays fitted with nuts or riveted over

nuts fitted ✓

Main stays: Material

Steel ✓

Tensile strength

28/32 ✓

Diameter

At body of stay, 3 1/8" ✓

or 3 1/2" ✓

No. of threads per inch

6 ✓

Screw stays: Material

Steel ✓

Tensile strength

26/30 ✓

Diameter

At turned off part, 1 7/8" ✓

or 1 7/8" ✓

No. of threads per inch

9 ✓



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Are the stays drilled at the outer ends

No

Margin stays: Diameter { At turned off part, or Over threads } 2

No. of threads per inch

Tubes: Material

Steel

External diameter

Plain 3" Stay 3"

Thickness 84 G. 5/16" 3/8"

No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/8"

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

4 1/4"

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

Thickness of crown

No. and diameter of stays

Inner radius of crown

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

Smoke tube

Manufacturers of

Tubes

Stewart & Lloyds

Steel forgings

Applied by Birmingham S.C.

Steel castings

Number of elements

177

Material of tubes

S.D.S.

Internal diameter and thickness of tubes

15 1/4" 2 1/2"

Material of headers

Forged steel

Tensile strength

26/30

Thickness

1 1/8"

Can the superheater be shut off and the boiler be worked separately

Area of each safety valve

3.14 sq"

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

Pressure to which the safety valves are adjusted

230 lb.

Hydraulic test pressure

tubes

1500 lb.

forgings and castings

660 lb.

and after assembly in place

500 lb.

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

THE NORTH EASTERN MARINE ENGINEERING CO. (1968) LTD.

The foregoing is a correct description,

RESIDENT MANUFACTURER

Dates of Survey

During progress of work in shops

Please see Rpt. 4.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

During erection on board vessel

Total No. of visits

Is this Boiler a duplicate of a previous case

If so, state Vessel's name and Report No.

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 & material are good. In recommendation please see Rpt. 4.

Survey Fee

Travelling Expenses (if any)

When applied for,

When received,

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 23 MAR 1945

Assigned

Su F.E. machy. opt.



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