

Received at London Office

5 OCT 1942

Date of writing Report

19

When handed in at Local Office

- 2 OCT 1942

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

26 Sep 1942

(Number of Visits)

Gross

6699

Tons

Net

4833

on the

EMPIRE BANNER

Built at Sunderland

By whom built

Barham & Sons, Ltd.

Yard No. 292

When built 1942

Engines made at

do.

By whom made

H.E. Mar. Eng. Co. (1938), Ltd.

Engine No. 4018

When made do.

Boilers made at

do.

By whom made

do.

Boiler No. do.

When made do.

Nominal Horse Power

511

Owners

M.O.W.T

W. Gould & Co.

Port belonging to

Sunderland

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

Manufacturers of Steel Plates: Colvilles Ltd. Stays: Steel Co. of Scotland.

(Letter for Record

3

Total Heating Surface of Boilers

5716 sq

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

2 S.E. Cylindrical

Working Pressure 220 lb.

Tested by hydraulic pressure to

380 lb.

Date of test

18.6.42

23.6.42

No. of Certificate

4431/2

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

67 1/2 sq

No. and Description of safety valves to each boiler

2 Direct Spring

Area of each set of valves per boiler

per Rule

15.4 sq

as fitted

16.58 sq

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

2'-1"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

23"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-11 15/16"

Length

12'-4 1/2"

Shell plates: Material

Steel

Tensile strength

29/33

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

J.R.L.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

19/16"

Pitch of rivets

4 1/8"

Percentage of strength of circ. end seams

plate

62.1

rivets

48.4

Percentage of strength of circ. intermediate seam

plate

—

rivets

—

Percentage of strength of longitudinal joint

plate

85.11

rivets

88.2

combined

88.1

Thickness of butt straps

outer

1 3/16"

No. and Description of Furnaces in each Boiler

3 Dighton: Stephen Forlayne.

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-11 1/2"

Length of plain part

top

—

Thickness of plates

crown

47/64"

bottom

Description of longitudinal joint

Weld

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

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 1/2"

Pitch of stays

1'-11 1/8" x 1'-8 1/16"

How are stays secured

double nuts

Tube plates: Material

front

Steel

Tensile strength

26/30

Thickness

15/16"

7/8"

Mean pitch of stay tubes in nests

8.7"

Pitch across wide water spaces

14 1/2" x 7 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33

Depth and thickness of girder

at centre

11 1/2" x 2"

Length as per Rule

46 1/2"

Distance apart

8 1/2"

No. and pitch of stays

in each

3 at 11 1/8"

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

25/32"

5 1/4"

Back

25/32"

Top

25/32"

5 1/4"

Bottom

29/32"

Pitch of stays to ditto: Sides

8 1/8" x 11 1/8"

Back

9 1/16" x 9 1/4"

Top

8 1/2" x 11 1/8"

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

31/32"

Pitch of stays at wide water space

15 1/2" x 9 15/16"

Are stays fitted with nuts or riveted over

nuts fitted

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay,

3 1/2"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part,

1 7/8"

No. of threads per inch

9



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Foundation

W274-0146

Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2 1/8" or Over threads

No. of threads per inch 9

Tubes: Material Steel External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 8.W.G. 1/16", 3/8" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening in 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 5/16" Steam Dome: Material —

Tensile strength — Thickness of shell — Description of longitudinal joint — Plate — Rivets —

Diameter of rivet holes — Pitch of rivets — Percentage of strength of joint —

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 — 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 — Hydraulic test pressure: Pressure to which the safety valves are adjusted — and after assembly in place — Are drain cocks or tubes — forgings and castings — 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 NORTH EASTERN MARINE ENGINEERING CO. (1888) LTD.

The foregoing is a correct description,
J. H. Hulbert RESIDENT MANAGER

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.)

while building { 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. Empire Ballad

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 please see Rpt 4.

Survey Fee ... £ See Rpt 4 When applied for, 19

Travelling Expenses (if any) £ — When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 18 OCT 1942

Assigned

See Std. J.E. 33499



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