

Rpt. 5a.

REPORT ON BOILERS.

No. 98187

Date of writing Report

19

When handed in at Local Office

19 JAN 1940

Received at London Office

JAN 22 1940

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book.

Survey held at Wallsend on Tyne

Date, First Survey

15.5.39

Last Survey

10 - 1 - 1940

38284 on the

SS "BEECHWOOD"

(Number of Visits)

Gross Tons

Net

Master

Built at Sunderland

By whom built

Sir J. Laing Sons Ltd Yard No. 727

When built

Engines made at

Wallsend

By whom made

N.E. MAR. ENG. CO (1938) Ltd

Engine No. 2940

When made 1940

Boilers made at

By whom made

Boiler No. 2940

When made 1940

Nominal Horse Power

Owners

J. J. Jacobs & Co Ltd

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company & Scotland Ltd.

Total Heating Surface of Boilers

3840 sq. ft.

Is forced draught fitted

yes

(Letter for Record

S.

No. and Description of Boilers

2 S.B.

Coal or Oil fired

coal

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

30.10.39

No. of Certificate

830

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

1 Double

Area of each set of valves per boiler

per Rule

10.2

Pressure to which they are adjusted

225

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'-8"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13'-6 3/8"

Length

12'-4 1/2"

Shell plates: Material

S

Tensile strength

29-33

Thickness

1 7/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

long. seams

T.R. D.B.S. (5 rivets)

Diameter of rivet holes in

circ. seams

1 3/8"

long. seams

1 3/8"

Pitch of rivets

4"

Percentage of strength of circ. end seams

plate

65

rivets

44.8

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.5

rivets

88.5

combined

88.7

Working pressure of shell by Rules

222

Thickness of butt straps

outer

inner

1 1/8"

No. and Description of Furnaces in each Boiler

3 cf.

Material

S

Tensile strength

26-30

Smallest outside diameter

3'-2 7/16"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

1 1/2"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

224

End plates in steam space: Material

S

Tensile strength

26-30

Thickness

1 1/4"

Pitch of stays

19 1/2" x 16 1/4"

How are stays secured

D.N.

Working pressure by Rules

222

Tube plates: Material

front

back

S

Tensile strength

26-30

Thickness

1 1/16"

1 1/16"

Mean pitch of stay tubes in nests

9"

Pitch across wide water spaces

14 1/2" x 7 1/4"

Working pressure

front

230

back

293

Girders to combustion chamber tops: Material

S

Tensile strength

29-33

Depth and thickness of girder

at centre

11 3/4" x 1" double

Length as per Rule

3'-10 1/2"

Distance apart

8 5/16"

No. and pitch of stays

in each

3 @ 10 3/4"

Working pressure by Rules

229

Combustion chamber plates: Material

S

Tensile strength

26-30

Thickness: Sides

2 5/32"

Back

1 3/16"

Top

2 5/32"

Bottom

2 5/32"

Pitch of stays to ditto: Sides

10 3/4" x 8 1/2"

Back

11 1/2" x 8 7/16"

Top

10 3/4" x 8 7/16"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

220

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

1 7/16"

Lower back plate: Material

S

Tensile strength

26-30

Thickness

3 1/32"

Pitch of stays at wide water space

14 1/2" x 11 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

226

Main stays: Material

S

Tensile strength

28-32

Diameter

At body of stay,

or

over threads

3

No. of threads per inch

6

Area supported by each stay

325 sq. in.

Working pressure by Rules

240

Screw stays: Material

S

Tensile strength

26-30

Diameter

At turned off part,

or

over threads

1 7/8"

No. of threads per inch

9

Area supported by each stay

96.9 sq. in.

W1124-0067

REPORT ON BOILERS

Working pressure by Rules **220** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, or Over threads **2" x 2 1/8"**

No. of threads per inch **9** Area supported by each stay **101 x 129 1/2"** Working pressure by Rules **244 & 220**

Tubes: Material **S.D. Steel** External diameter { Plain **2 1/2"** Thickness { **8 S.W.G.** No. of threads per inch **9**

Pitch of tubes **4" x 3 7/8"** Working pressure by Rules **255** Manhole compensation: Size of opening in shell plate **✓** 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 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 **N.E. Marine Combustion Chamber** Manufacturers of { Tubes **Tubes Ltd.** Headers **Stewart & Lloyd**

Number of elements **26** Material of tubes **S.D. Steel** Internal diameter and thickness of tubes **1.023" 7 W.G.**

Material of headers **S.D. Steel** Tensile strength **26 - 28** Thickness **1"** Can the superheater be shut off and the boiler be worked separately **no** 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 sq. ft.** Are the safety valves fitted with easing gear **yes** Working pressure as per Rules **220 lbs.** Pressure to which the safety valves are adjusted **225 lbs.** Hydraulic test pressure: tubes **1500 lbs.** Headers **660 lbs.** forgings and castings **660 lbs.** and after assembly in place **440 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.
John Neill Manufacturer.

Dates of Survey { During progress of work in shops - - } *See Machine report* Are the approved plans of boiler and superheater forwarded (If not state date of approval) **22.5.39 & 22.6.39**

while building { During erection on board vessel - - } Total No. of visits **2**

Is this Boiler a duplicate of a previous case **yes** If so, state Vessel's name and Report No. **"Argyll" Nwe Rpt 98087**

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

The two main boilers & superheaters have been made & installed under Special Survey in accordance with the Approved Plans & the Requirements of the Rules.

The materials & workmanship are good & the boilers & superheaters were found satisfactory under hydraulic tests & under working conditions

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

Travelling Expenses (if any) £ *See Rpt* When received, **19**

B. Clappitt
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *See Std. F.C. 22788*