

## REPORT ON BOILERS.

No. 95876

Received at London Office

FEB -2 1938

Date of writing Report

19

When handed in at Local Office

1/21 1938

Port of Newcastle on Tyne

No. in Survey held at

Wallend

Reg. Book.

Date, First Survey

16 June

Last Survey

27 Jan 1938

on the

S.S. "BRATED"

(Number of Visits)

Gross

Tons

Net

6.5

Master

Built at Burntisland

By whom built Burntisland S.B.Co. Ltd.

Yard No. 217

When built 1938

Engines made at

Wallend

By whom made

North Eastern Marine Eng Co. Ltd.

Engine No. 2884

When made 1938

Boilers made at

Wallend

By whom made

North Eastern Marine Eng Co. Ltd.

Boiler No. 2884

When made 1938

Nominal Horse Power

115

Owners

Hudson S.S. Co. Ltd.

Port belonging to

London

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

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record)

S ✓

Total Heating Surface of Boilers

2067 ft<sup>2</sup>

Is forced draught fitted

No

Coal or Oil fired

Coal ✓

No. and Description of Boilers

One single ended multitubular

Working Pressure

220 lbs ✓

Tested by hydraulic pressure to

380 lbs

Date of test

9-12-37

No. of Certificate

751 ✓

Can each boiler be worked separately

—

Area of Firegrate in each Boiler

60.5 ft<sup>2</sup>

No. and Description of safety valves to each boiler

Two spring loaded. ✓

Area of each set of valves per boiler

per Rule 11.15 ft<sup>2</sup>

Pressure to which they are adjusted

225 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

7'-6" ✓

Is oil fuel carried in the double bottom under boilers

No ✓

Smallest distance between shell of boiler and tank top plating

21" ✓

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

15'-0 1/8" ✓

Length

10'-6" ✓

Shell plates: Material

Steel ✓

Tensile strength

29-33 tons ✓

Thickness

1 7/16" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end L.D.R. ✓

Long. seams

T.R. obl Straps ✓

Diameter of rivet holes in

circ. seams 1 15/32" ✓

Pitch of rivets

1 15/32" ✓

Pitch of rivets

10 3/16" ✓

Percentage of strength of circ. end seams

plate 65.4 ✓

rivets 44.0 ✓

Percentage of strength of circ. intermediate seam

plate —

rivets —

Percentage of strength of longitudinal joint

plate 85.8 ✓

combined 88.2 ✓

Working pressure of shell by Rules

220.4 lbs ✓

Thickness of butt straps

outer 1 3/32" ✓

inner 1 7/32" ✓

No. and Description of Furnaces in each Boiler

Three Brighton ✓

Material

Steel ✓

Tensile strength

26-30 tons ✓

Smallest outside diameter

44 7/8" ✓

Length of plain part

top —

bottom —

Thickness of plates

crown 1 1/16" ✓

bottom 1 1/16" ✓

Description of longitudinal joint

Welded ✓

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

—

Working pressure of furnace by Rules

226 lbs ✓

End plates in steam space: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

1 3/8" ✓

Pitch of stays

20" x 19 1/2" ✓

How are stays secured

Double nuts ✓

Working pressure by Rules

227 lbs ✓

Tube plates: Material

front Steel ✓

back Steel ✓

Tensile strength

26-30 tons ✓

Thickness

13/16" ✓

Mean pitch of stay tubes in nests

8 7/8" ✓

Pitch across wide water spaces

14 1/2" ✓

Working pressure

front 226 lbs ✓

back 300 lbs ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

29-33 tons ✓

Depth and thickness of girder

at centre

8 1/2" x 2 @ 13/16" ✓

Length as per Rule

30" ✓

Distance apart

10" ✓

No. and pitch of stays

in each

2 @ 8 7/8" ✓

Working pressure by Rules

228 lbs ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness: Sides

3/4" ✓

Back

25/32" ✓

Top

3/4" ✓

Bottom

3/4" ✓

Pitch of stays to ditto: Sides

10" x 8 7/8" ✓

Back

10" x 9" ✓

Top

10" x 8 7/8" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working pressure by Rules

222 lbs ✓

Front plate at bottom: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

1" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

1" ✓

Pitch of stays at wide water space

14 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working Pressure

266 lbs ✓

Main stays: Material

Steel ✓

Tensile strength

28-32 tons ✓

Diameter

At body of stay, or over threads

3 1/4" ✓

No. of threads per inch

6 ✓

Area supported by each stay

390 ft<sup>2</sup> ✓

Working pressure by Rules

237 lbs ✓

Screw stays: Material

Steel ✓

Tensile strength

26-30 tons ✓

Diameter

At turned off part, or over threads

1 7/8" ✓

No. of threads per inch

9 ✓

Area supported by each stay

90 ft<sup>2</sup> ✓



Working pressure by Rules 238 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part. 2 1/8" Over threads 2 1/8"   
 No. of threads per inch 9 Area supported by each stay 117.5 Working pressure by Rules 242 lbs   
 Tubes: Material S.S. Steel External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 5/16" + 3/8" No. of threads per inch 9   
 Pitch of tubes 8 3/4" & 11 3/4" Working pressure by Rules 253 lbs 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 1/8" 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 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 none 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 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 foregoing is a correct description,   
 THE NORTH EASTERN MARINE ENGINEERING CO., LTD.   
 John Neill Manufacturer.

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

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. -

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, in accordance with the approved plan and the Rules: the materials and workmanship are good, on completion it was tested by hydraulic pressure to 380 lbs per square inch and found tight and satisfactory. It has been fitted on board in an efficient manner, tried under working conditions and found satisfactory.

Survey Fee ... Charged on When applied for, 10   
 Travelling Expenses (if any) Machine Report When received, 10

J. S. Sellar

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 4 FEB 1938

Assigned Su Dec 19487



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Generator Test Certificate