

## REPORT ON BOILERS.

No. 100567

Date of writing Report

When handed in at Local Office

Port of

Received at London Office

NEWCASTLE-ON-TYNE

No. in Survey held at  
Reg. Book.

Wallsend

Date, First Survey 25<sup>th</sup> Nov. 1941. Last Survey 7<sup>th</sup> July 1942.

36472 on the S S "EMPIRE. HAZLITT."

(Number of Visits)

Gross 7036  
Net 4933

Master

Built at S. Shields

By whom built J. Readhead &amp; Sons Ltd

Card No. 528

When built 1942.

Engines made at Wallsend.

By whom made N.E. Marine Eng Co (1938) Ltd

Engine No. 3022

When made 1942

Boilers made at

By whom made

Boiler No. 3022

When made 1942

Nominal Horse Power

Owners Ministry of War Transport

Port belonging to S. Shields

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

Manufacturers of Steel Steel Co of Scotland Ltd

(Letter for Record S.)

Total Heating Surface of Boilers

7248

Is forced draught fitted

yes

Coal or Oil fired coal

No. and Description of Boilers

3 S B.

Working Pressure 220

Tested by hydraulic pressure to 380

Date of test 30.3.42

No. of Certificate 959

Can each boiler be worked separately yes

Area of Firegrate in each Boiler 55 4/7

No. and Description of safety valves to each boiler 1 Double improved high lift.

Area of each set of valves per boiler { per Rule 6.42

as fitted 7.94

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

Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating

2'-2"

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 S

Tensile strength 29-33

Thickness 1 5/32"

Are the shell plates welded or flanged no

Description of riveting: circ. seams { end DR

long. seams TR. DBS.

Diameter of rivet holes in { circ. seams 1 1/2"

long. seams

Pitch of rivets { 4 1/8"

10 3/8"

Percentage of strength of circ. end seams { plate 63.6

rivets 46.2

Percentage of strength of circ. intermediate seam { plate

Percentage of strength of longitudinal joint { plate 85.5

rivets 86.2

Working pressure of shell by Rules

Percentage of strength of longitudinal joint { combined 88.3.

Thickness of butt straps { outer 1 1/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler 3 cf.

Material S.

Tensile strength 26-30

Smallest outside diameter 3'-9 3/4"

Length of plain part { top

Thickness of plates { crown 1/16"

Description of longitudinal joint weld.

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

Working pressure of furnace by Rules

End plates in steam space: Material S.

Tensile strength 26-30

Thickness 1 1/32"

Pitch of stays 19 3/4" x 19 7/8"

How are stays secured Double nuts.

Working pressure by Rules 2

Tube plates: Material { front S

Tensile strength { 26-30

Thickness { 1 5/16"

25 3/32"

Mean pitch of stay tubes in nests 9 5/16"

Pitch across wide water spaces 14" x 8 1/4"

Working pressure { front

back

Girders to combustion chamber tops: Material S.

Tensile strength 28-32.

Depth and thickness of girder

at centre 10 1/2" x 1 1/16" Dble

Length as per Rule 33 7/32"

Distance apart 9 1/4"

No. and pitch of stays

in each 32 8"

Working pressure by Rules

Combustion chamber plates: Material S

Tensile strength 26-30

Thickness: Sides 1/16"

Back 1/16"

Top 1/16"

Bottom 7/8"

Pitch of stays to ditto: Sides 9 1/4" x 8"

Back 9 1/4" x 8"

Top 9 1/4" x 8"

Are stays fitted with nuts or riveted over nuts

Working pressure by Rules

Front plate at bottom: Material S

Tensile strength 26-30

Thickness 1 5/16"

Lower back plate: Material S

Tensile strength 26-30

Thickness 27 3/32"

Pitch of stays at wide water space 14" x 8"

Are stays fitted with nuts or riveted over nuts

Working Pressure

Main stays: Material S

Tensile strength 28-32.

Diameter { At body of stay, or

Over threads 3 1/4"

No. of threads per inch 6

Area supported by each stay

Working pressure by Rules

Screw stays: Material S

Tensile strength 26-30

Diameter { At turned off part, or

Over threads 1 3/4"

No. of threads per inch 9

Area supported by each stay

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Working pressure by Rules ✓ Are the stays drilled at the outer ends 110 Margin stays: Diameter { At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Area supported by each stay ✓ Working pressure by Rules ✓ Tubes: Material SD Steel External diameter { Plain 3" Stay 3" Thickness { 8 W.G. 7/8" & 7/16" No. of threads per inch 9 Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules Manhole compensation: Size of opening in shell plate none 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 1/2" (End plate) Steam Dome: Material none 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 yes

THE NORTH EASTERN MARINE ENGINEERING CO. (1933) LTD.

The foregoing is a correct description,

John Neill

Manufacturer.

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - -

See Machinery Report.

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

Total No. of visits

Is this Boiler a duplicate of a previous case yes. If so, state Vessel's name and Report No. Empire Story Nwe. 100255.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been made & installed under Special Survey in accordance with the approved Plan, the Specification & the Requirements of the Rules. They proved sound & tight under hydraulic test & satisfactory under working conditions.

Survey Fee ... £ See Mch. Rpt. When applied for, 19 Travelling Expenses (if any) £ When received, 19

Beckett

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Nwe. J.E. 100567



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