

REPORT ON BOILERS.

No. 85781

Received at London Office

27 MAY 1930

Date of writing Report

When handed in at Local Office

26/5/30 Port of

Newcastle-on-Tyne

No. in Survey held at
Reg. Book.

Date, First Survey

28 May 129 Last Survey 20 May 1930

(Number of Visits)

Gross

4562

Tons

Net 2788

Master

Built at

Willington Quay

By whom built

Northumberland Shipyard No. 416

When built 1930

Engines made at

Wallsend-on-Tyne

By whom made

North Eastern Marine & Cold Storage

Engine No. 2401

When made 1930

Boilers made at

Wallsend-on-Tyne

By whom made

North Eastern Marine & Cold Storage

Boiler No. 2401

When made 1930

Nominal Horse Power

432.

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Coy of Scotland Ltd & Withowitz Bergbau

(Letter for Record)

Total Heating Surface of Boilers

5294 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

Two single ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

350 lbs

Date of test

16-12-29

No. of Certificate

413

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

58 sq ft

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

(per Rule) 15.58

Pressure to which they are adjusted

205 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

2'-0"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2'-4"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15'-6 1/4"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29 to 33 tons

Thickness

1 3/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

inter.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

9 3/4"

Percentage of strength of circ. end seams

plate

rivets

64.8

Percentage of strength of circ. intermediate seam

plate

rivets

46.45

Percentage of strength of longitudinal joint

plate

rivets

85.25

Working pressure of shell by Rules

202.5 lbs

Thickness of butt straps

outer

1 1/16"

inner

1 3/16"

No. and Description of Furnaces in each Boiler

Three corrugated (Brighton)

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-8 1/4"

Length of plain part

top

bottom

✓

Thickness of plates

crown

bottom

5/8"

Description of longitudinal joint

weld

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

none

Working pressure of furnace by Rules

206 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 13/32"

Pitch of stays

1'-10" x 1'-9"

How are stays secured

D nuts

Working pressure by Rules

200.6 lbs

Tube plates: Material

front

back

Steel

Tensile strength

26 to 30 tons

Thickness

1"

3/4"

Mean pitch of stay tubes in nests

9 13/16"

Pitch across wide water spaces

14 3/4" x 8 1/2"

Working pressure

front 208.5 lbs

back 208 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 9" x 7/8"

Length as per Rule

2'-8"

Distance apart

11 1/8"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

214 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

25/32"

Back

3/4"

Top

25/32"

Bottom

1"

Pitch of stays to ditto: Sides

9 1/2" x 11 1/8"

Back

10 x 9 1/8"

Top

9 1/2" x 11 1/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

201 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

29/32"

Pitch of stays at wide water space

14 3/4" x 9 1/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

213 lbs

Main stays: Material

Steel

Tensile strength

26 to 32 tons

Diameter

At body of stay,

or

Over threads

3 1/4"

No. of threads per inch

6

Area supported by each stay

462 sq in

Working pressure by Rules

200.5 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part,

or

Over threads

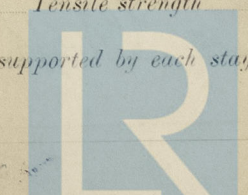
1 1/8"

No. of threads per inch

9

Area supported by each stay

98.4 sq in



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Working pressure by Rules 216 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2" (At turned off part, or Over threads) 2"

No. of threads per inch 9 Area supported by each stay 122.35" Working pressure by Rules 202.5 lbs

Tubes: Material S.D. Steel External diameter 3" Thickness 8 wls No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules next to 204 lbs Manhole compensation: Size of opening in end 16" x 12" Section of compensating ring none No. of rivets and diameter of rivet holes 4 3/8"

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 3/8" 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

How connected to shell Inner radius of crown Working pressure by Rules

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 North Eastern smoke tubes (Schmit) Tubes Weldless Steel Tube by Manufacturers of James Y. Roddingham Steel Coy. Ltd.

Number of elements 112 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" m/m x 2.5 m/m

Material of headers forged steel Tensile strength 26530 lbs Thickness 1/8" 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 3.1416 Are the safety valves fitted with casing gear yes Working pressure as per Rules 200 lbs Pressure to which the safety valves are adjusted 205 lbs Hydraulic test pressure: tubes 1500 lbs castings 600 lbs and after assembly in place 500 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 NORTH EASTERN MARINE ENGINEERING CO., LTD.
The foregoing is a correct description,
W. R. Butler Secretary/Manufacturer.

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

See Mch Report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits

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

These Boilers have been built under special survey. materials & workmanship good, hydraulic tests satisfactory. They have been efficiently installed examined under steam & safety valves adjusted.

Survey Fee ... £ :
Travelling Expenses (if any) £ : ✓

When applied for, 192
When received, 192

William Butler

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 3 JUN 1930

Assigned

See Mch Report attached



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