

## REPORT ON BOILERS.

No. 30455

Received at London Office

13 SEP 1930

Date of writing Report

12.9

1930

When handed in at Local Office

12.9.

1930

Port of

SUNDERLAND.

No. in

Survey held at

SUNDERLAND.

Date First Survey

15/4/30

Last Survey

10/9/30

1930

on the

S.S. "HARPENDEN."

(Number of Visits

39

Gross

4,678

Tons

Net

2,774.

Master

Built at SUNDERLAND.

By whom built

BARTRAM &amp; SONS. LD.

Yard No.

270

When built

1930.

Engines made at

SUNDERLAND.

By whom made

N.E. MARINE ENGINEERING. CO. LD.

Engine No.

2748

When made

1930.

Boilers made at

SUNDERLAND.

By whom made

N.E. MARINE ENGINEERING. CO. LD.

Boiler No.

2748.

When made

1930.

Nominal Horse Power

408.

Owners

J. &amp; C. HARRISON. LD.

Port belonging to

LONDON.

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

Manufacturers of Steel

VITKOVICE MINES, STEEL &amp; IRON CORP. CZECHO SLOVACIA - STEEL CO. OF SCOTLAND.

(Letter for Record

(r).

Total Heating Surface of Boilers

1573 sq

Is forced draught fitted

No.

Coal or Oil fired

COAL.

No. and Description of Boilers

1 CYLINDRICAL MARINE TYPE.

1 19x58

Working Pressure

180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

8-8-30

No. of Certificate

4114

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

50 1/2 sq

No. and Description of safety valves to each boiler

2 SPRING LOADED.

Area of each set of valves per boiler

per Rule

10.29 sq

as fitted

Pressure to which they are adjusted

185 lbs.

Are they fitted with easing gear

Yes.

In case of

Aux.

donkey boilers, state whether steam from main boilers can enter the donkey boiler

No.

Smallest distance between boilers or uptakes and bunkers or woodwork

Set between main boilers

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

No.

Largest internal dia. of boilers

13'-3 3/8"

Length

11'-0"

Shell plates: Material

STEEL

Tensile strength

29/33 Tm.

Thickness

1 1/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end D.R. LAP

long. seams

T.R. D. B. STRAP

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate

67.8

rivets

42.3

Percentage of strength of circ. intermediate seam

plate

-

rivets

-

Percentage of strength of longitudinal joint

plate

85.9

rivets

86.9

combined

89.1

Working pressure of shell by Rules

181.3 lbs.

Thickness of butt straps

outer

13/16"

inner

17/16"

No. and Description of Furnaces in each Boiler

3 CORRUGATED, DEIGHTON SECTION.

Material

STEEL

Tensile strength

24/30 Tm.

Smallest outside diameter

3'-0 1/16"

Length of plain part

top

-

bottom

-

Thickness of plates

crown

17/32"

bottom

-

Description of longitudinal joint

WELD.

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

Working pressure of furnace by Rules

208 lbs.

End plates in steam space: Material

STEEL

Tensile strength

24/30 Tm.

Thickness

1 3/32"

Pitch of stays

23 5/8" x 16 7/8"

How are stays secured

D. NUTS.

Working pressure by Rules

182.2 lbs.

Tube plates: Material

front

STEEL

back

STEEL

Tensile strength

24/30 Tm.

Thickness

27/32"

25/32"

Mean pitch of stay tubes in nests

11"

Pitch across wide water spaces

14 1/2" x 9 1/2"

Working pressure

front 181.3 lbs.

back 180.8 lbs.

Girders to combustion chamber tops: Material

STEEL

Tensile strength

28/32 Tm.

Depth and thickness of girder

at centre

8 1/4" x 1 7/8"

Length as per Rule

30 1/2"

Distance apart

10"

No. and pitch of stays

in each

2 at 9 1/2"

Working pressure by Rules

181.4 lbs.

Combustion chamber plates: Material

STEEL

Tensile strength

24/30 Tm.

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

10 1/2" x 9 1/2"

Back

10 1/2" x 9 1/2"

Top

10" x 9 1/2"

Are stays fitted with nuts or riveted over

NUTS.

Working pressure by Rules

181 lbs.

LEAST.

Front plate at bottom: Material

STEEL

Tensile strength

24/30 Tm.

Thickness

27/32"

Lower back plate: Material

STEEL

Tensile strength

24/30 Tm.

Thickness

27/32"

Pitch of stays at wide water space

14 1/4" x 9 1/2"

Are stays fitted with nuts or riveted over

NUTS.

Working Pressure

184 lbs.

Main stays: Material

STEEL

Tensile strength

28/32 Tm.

Diameter

At body of stay,

2 3/8"

or

Over threads

3 1/2"

No. of threads per inch

6

Area supported by each stay

398.6 sq

Working pressure by Rules

180.1 lbs.

Screw stays: Material

TESTED IRON.

Tensile strength

2 1/2 Tm. (MINIMUM).

Diameter

At turned off part,

1 7/8"

or

Over threads

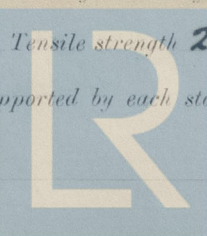
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No. of threads per inch

9.

Area supported by each stay

99.75 sq



Lloyd's Register Foundation

005387-005396-0225



Working pressure by Rules 211 lb. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 2" No. of threads per inch 9 Area supported by each stay 116.375 sq. Working pressure by Rules 212 lb. Tubes: Material SEAMLESS STEEL External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 w.g. 1/4" 3 5/8" No. of threads per inch 9 Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules 230, 215, 191 lb. Manhole compensation: Size of opening shell plate 20" x 16" Section of compensating ring 21" x 1 1/8" No. of rivets and diameter of rivet holes 32 1/2 1 3/32" Outer row rivet pitch at ends 9 1/4" Depth of flange if ring flanged 3 3/4" 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 Manufacturers of { Tubes 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 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 foregoing is a correct description, FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturers John Neill Dates of Survey { During progress of work in shops - - - Please see M.L.Y. Rpt. 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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler has been built under Special Survey, and the materials & workmanship are good. On completion it was satisfactorily fitted in the vessel and examined under a full head of steam. The Safety Valves were adjusted under steam and accumulative test carried out satisfactorily. For Notation see Machinery Report.

Survey Fee ... £ : When applied for, 192 Travelling Expenses (if any) £ : When received, 192 Charges on Machinery Report. Committee's Minute Assigned Su F. E. Rpt. TUE. 23 SEP 1930 Engineer Surveyor to Lloyd's Register of Shipping. J. D. Scott.