

REPORT ON BOILERS.

No. 88955

Date of writing Report

19

When handed in at Local Office

27/7/1932

Received at London Office

1 AUG 1932

Port of Newcastle-on-Tyne.

No. in Survey held at

Reg. Book.

Wallsend-on-Tyne

Date, First Survey

30 Dec/31

Last Survey

26 July 1932

on the

New Steel S.S. "Charlesden"

(Number of Visits)

Gross 5483

Net 3220

Master

Built at

Lebburn

By whom built

Hawthorne Leslie & Co. Ltd.

Yard No. 586

When built 1932

Engines made at

Wallsend

By whom made

North Eastern Marine Eng. Co. Ltd.

Engine No. 2488

When made 1932

Boilers made at

Wallsend

By whom made

North Eastern Marine Eng. Co. Ltd.

Boiler No. 2488

When made 1932

Nominal Horse Power

487

Owners

National S.S. Co. Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS: MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record)

P.T.

Total Heating Surface of Boilers

1924 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

one single ended.

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380

Date of test

29-11-32

No. of Certificate

544

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

45.6 sq. ft.

No. and Description of safety valves to each boiler

Two spring loaded.

Area of each set of valves per boiler

per Rule

10.3

as fitted

11.88

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

Yes

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'-8"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13'-3 1/2"

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

end

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 5/16"

Pitch of rivets

3 3/4"

9 3/16"

Percentage of strength of circ. end seams

plate

68.3

rivets

44.6

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.4

rivets

85.4

Working pressure of shell by Rules

220.6 lbs.

Thickness of butt straps

outer

1"

inner

1 1/8"

No. and Description of Furnaces in each Boiler

Three corrugated

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-1"

Length of plain part

top

bottom

Thickness of plates

crown

5/8"

Description of longitudinal joint

weld.

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

none

Working pressure of furnace by Rules

259 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/32"

Pitch of stays

16 3/4" x 1 1/4"

How are stays secured

double nuts

Working pressure by Rules

222 lbs.

Tube plates: Material

front

Steel

back

Tensile strength

26 to 30 tons

Thickness

3/4"

Mean pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

14" x 7 1/2"

Working pressure

front

240 lbs.

back

228.4 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 9 1/2" x 3 1/4"

Length as per Rule

2'-9"

Distance apart

9 1/2"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

229 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

9 1/2" x 9 1/8"

Back

11 1/4" x 8 1/4"

Top

9 1/2" x 9 1/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

222 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

29/32"

Pitch of stays at wide water space

15" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

230 lbs.

Main stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At body of stay,

3"

or

3 1/4"

No. of threads per inch

6

Area supported by each stay

310 sq. in.

Working pressure by Rules

254 lbs.

Screw stays: Material

wrought iron

Tensile strength

21 1/2 tons min.

Diameter

At turned off part,

2"

or

2 1/2"

No. of threads per inch

9

Area supported by each stay

93.45 sq. in.

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Working pressure by Rules 22 1/2 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2 1/8" or Over threads 2 3/8" ✓
No. of threads per inch 9 Area supported by each stay 104" Working pressure by Rules 23 1/2 lbs
Tubes: Material S.D. Steel External diameter { Plain 2 1/2" Thickness { 9 L.S. 9 No. of threads per inch 9 ✓
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 230 lbs Manhole compensation: Size of opening in
shell plate 1'-8 1/8" x 1'-4 5/8" Section of compensating ring 24" x 1 5/16" No. of rivets and diameter of rivet holes 34 @ 1 1/2"
Outer row rivet pitch at ends 10 1/2" ✓ Depth of flange if manhole flanged 3" 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 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 _____, 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 foregoing is a correct description,

W. Campbell Manufacturer.

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

See index report

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

Total No. of visits _____

Is this Boiler a duplicate of a previous case _____

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, materials & workmanship
good hydraulic test satisfactory

Survey Fee £ : ✓ :

When applied for, 19

Travelling Expenses (if any) £ : :

When received, 19

William Butler

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

WED. AUG 3 1932

Assigned

See F.E. Rpt.



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Foundation