

H6
Rpt. 5a.

REPORT ON BOILERS.

No. 16654

11 JUL 1928

Received at London Office

Date of writing Report

192

When handed in at Local Office

9.7.28

Port of

WEST HARTLEPOOL

No. in
Reg. Book.

Survey held at

West Hartlepool

Date, First Survey

2nd July

Last Survey

4th July 1928

on the

S.S. "ALPHACCA"

(Number of Visits

Gross

Tons

Net

Master

Built at

Dundee

By whom built

Wm Gray & Co. Ltd.

Yard No.

1004

Engines made at

West Hartlepool

By whom made

Central Marine Engine

Engine No.

1004

Boilers made at

ditto

By whom made

Works

Boiler No.

1004

Nominal Horse Power

Owners

Port belonging to

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel

D. Cobille & Sons. Ltd.

(Letter for Record

r.)

Total Heating Surface of Boilers

5562 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

2 single ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

300 lb

Date of test

10.5.28

No. of Certificate

3738

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 Cockburns improved high lift

Area of each set of valves per boiler

per Rule

8.15"

as fitted

11.884"

Pressure to which they are adjusted

205 lb

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

14"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

15'-3"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

31/35

Thickness

1 1/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R. Lab

long. seams

J.R. D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

long. seams

1 1/2"

Pitch of rivets

4" 9/8"

Percentage of strength of circ. end seams

plate

66.2

rivets

42

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.5

rivets

86.5

combined

87.8

Working pressure of shell by Rules

200 lbs

Thickness of butt straps

outer

1"

inner

1 1/8"

No. and Description of Furnaces in each Boiler

3 Deightons 3cf

Material

Steel

Tensile strength

26/30

Smallest outside diameter

42 1/16"

Length of plain part

top

bottom

Thickness of plates

crown

2 1/2"

bottom

32"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

224 lbs

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 1/2"

Pitch of stays

20" x 21"

How are stays secured

Double nuts & washers

Working pressure by Rules

206 lb

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

1 1/2"

Mean pitch of stay tubes in nests

12 3/4" x 8 1/2"

Pitch across wide water spaces

15"

Working pressure

front 204 lbs

back 245 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

at centre

9" x 1 3/4"

Length as per Rule

34 3/8"

Distance apart

9 1/2"

No. and pitch of stays

in each

3

9 1/2"

Working pressure by Rules

206 lb

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

1"

Pitch of stays to ditto: Sides

9 1/2" x 9 1/2"

Back

9 1/2" x 9 1/2"

Top

9 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

220 lb

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

1 1/2"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

1 1/2"

Pitch of stays at wide water space

15" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

229 lb

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay,

3 1/2"

Over threads

No. of threads per inch

6

Area supported by each stay

20" x 21"

Working pressure by Rules

225 lb

Screw stays: Material

Iron

Tensile strength

21 1/2"

Diameter

At turned off part,

1 3/8"

Over threads

No. of threads per inch

9

Area supported by each stay

9 1/2" x 9 1/2"

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Working pressure by Rules **236 lbs** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part. **2 1/8"**
 No. of threads per inch **9** Area supported by each stay **9 1/2" x 12 1/4"** Working pressure by Rules **244 lbs**
 Tubes: Material **Iron** External diameter { Plain **3** Thickness { **8 W.G.** No. of threads per inch **9**
 Pitch of tubes **4 1/4" x 4 1/4"** Working pressure by Rules **250 ~ 245 lbs.** Manhole compensation: Size of opening in
 shell plate **16" x 20"** Section of compensating ring **22" x 1 1/4"** No. of rivets and diameter of rivet holes **32 1 13/32"**
 Outer row rivet pitch at ends **9 3/8"** Depth of flange if manhole flanged **✓** 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 **✓**
 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 **Robinson's smoke tube** Manufacturers of { Tubes **The Superheater**
 Number of elements **64 each boiler** Material of tubes **S.D. Steel** Steel castings **Forging. Company Ltd.**
 Material of headers **Forged steel** Tensile strength **5/8"** Can the superheater be shut off and
 the boiler be worked separately **yes** 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 **1.77 sq"** Are the safety valves fitted with easing gear **yes** Working pressure as per
 Rules **200 lb** Pressure to which the safety valves are adjusted **205 lb** Hydraulic test pressure:
 tubes **600 lb** castings **600 lb** and after assembly in place **600 lb** Are drain cocks or valves fitted
 to free the superheater from water where necessary **yes**
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with **yes.**

The foregoing is a correct description,
 FOR THE CENTRAL MARINE ENGINE WORKS,

(W. Gray & Co. Ltd.)

Manufacturer.

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

All machinery ref.

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

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

See accompanying machinery report.

Survey Fee ... £ **100** : **100** :
 Travelling Expenses (if any) £ : :
 When applied for, **10.7.1928**
 When received, **1928**

R. D. Shilston.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRL 13 JUL 1928

Assigned

See Ref. ypt. attached



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 Foundation