

REPORT ON BOILERS.

Received at London Office

Date of writing Report

192

When handed in at Local Office

9.7.1928

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

Sunderland

By whom built

Wm Gray & Co Ltd

Yard No

1004

When built

1928

Engines made at

West Hartlepool

By whom made

Central Marine Engine

Engine No.

1004

When made

1928

Boilers made at

ditto

By whom made

Works

Boiler No.

1004

When made

1928

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Colville & Son Ltd.

(Letter for Record

T)

Total Heating Surface of Boilers

3372 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended

See separate Rept on 2 Boilers

Working Pressure

200 lb

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

83 sq. ft.

No. and Description of safety valves to each boiler

2 Cockburns improved high lift

Area of each set of valves per boiler

per Rule 9.8.

as fitted 14.14

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

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

yes

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

yes

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

17'-0"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

31/35

Thickness

1 13/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end DR Lap

long. seams

J.R. & B.S.

Diameter of rivet holes in

circ. seams 1 1/2"

long. seams 1 1/2"

Pitch of rivets

4 3/8" 10"

Percentage of strength of circ. end seams

plate 65.7

rivets 42.5

Percentage of strength of circ. intermediate seam

plate

yes

Percentage of strength of longitudinal joint

plate 85

rivets 87.2

combined 87.44

Working pressure of shell by Rules

202 lb

Thickness of butt straps

outer 1 3/32"

inner 1 3/32"

No. and Description of Furnaces in each Boiler

4 Deightons 4 Cf.

Material

Steel

Tensile strength

26/30

Smallest outside diameter

42 1/16"

Length of plain part

top

bottom

Thickness of plates

coron 2 1/32"

bottom 3/32"

Description of longitudinal joint

welded

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

yes

Working pressure of furnace by Rules

224 lbs

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 2/32"

Pitch of stays 18" x 23"

How are stays secured

Double nuts & washers

Working pressure by Rules

203 lbs

Tube plates: Material

front Steel

back

Tensile strength

26/30

Thickness

15/16" 7/8"

Mean pitch of stay tubes in nests

12 3/4" x 8 1/2"

Pitch across wide water spaces

15"

Working pressure

front 203 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

20/30

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" x 10"

Top

9 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

220 lbs

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

45/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Pitch of stays at wide water space

15" x 10"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

222 lb

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay, 3 1/2"

or

Over threads

No. of threads per inch

6

Area supported by each stay

18 3/4" x 23"

Working pressure by Rules

220 lbs

Screw stays: Material

Iron

Tensile strength

21 1/2

Diameter

At turned off part, 1 7/8"

or

Over threads

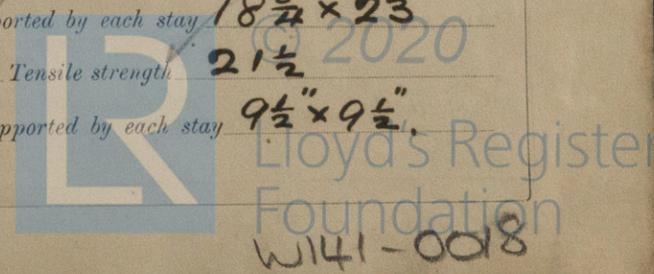
No. of threads per inch

9

Area supported by each stay

9 1/2" x 9 1/2"

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Working pressure by Rules **236 lb** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part. **2 1/8"** or Over threads

No. of threads per inch **9** Area supported by each stay **12" x 10"** Working pressure by Rules **237 lb**

Tubes: Material **Iron** External diameter { Plain **3 1/4"** Stay Thickness { **8 x 6** **1/4" x 3/8"** No. of threads per inch **9**

Pitch of tubes **4 1/4" x 4 1/4"** Working pressure by Rules **245 lb** Manhole compensation: Size of opening

shell plate **16" x 20"** Section of compensating ring **22" x 1 13/32"** No. of rivets and diameter of rivet holes **32 1 1/2"**

Outer row rivet pitch at ends **10"** 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 _____ 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 **Robinsons smoke tube** Manufacturers of Tubes **The Superheater Company Ltd.**

Number of elements **3372** Material of tubes **S.D. Steel** Steel castings **forging** Internal diameter and thickness of tubes **16 9/16" 3" m**

Material of headers **Forged steel** Tensile strength _____ Thickness **5"** 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,
(H. Gray & Co. Ltd.) Manufacturer.

Dates of Survey { During progress of work in shops - - } **See machy rpt.** Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **yes**

while building { During erection on board vessel - - - } Total No. of visits _____

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

See accompanying machinery report.

Survey Fee ... £ ~~100~~ : ~~100~~ : ~~100~~ When applied for, **10.7.1928**

Travelling Expenses (if any) £ : : When received, **1928**

R. D. Shilston.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 13 JUL 1928**

Assigned **See Machy rpt. attached**

