

REPORT ON BOILERS.

No. 16373

Received at London Office TUES. 4 AUG 1925

Date of writing Report 31 July 1925 When handed in at Local Office 31 July 1925

Port of

WEST HARTLEPOOL

No. in
Reg. Book.

Survey held at

West Hartlepool

Date, First Survey

21 Jan'y

Last Survey

31 July 1925

39652

on the

S.S. "KARTIGI"

(Number of Visits)

Gross

2346.59

Tons

Net 1166.62

Master

Built at

West Hartlepool

By whom built

Wm Gray & Co. Ltd.

Yard No.

974

When built

1925

Engines made at

West Hartlepool

By whom made

Central Marine

Engine No.

974

When made

1925

Boilers made at

ditto

By whom made

Engine Works

Boiler No.

974

When made

1925

Nominal Horse Power

Owners

Union S.S. Co. Ltd. of New Zealand

Port belonging to

Wellington, N.Z.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ltd

(Letter for Record

S)

Total Heating Surface of Boilers

5076 sq. ft.

Is forced draught fitted

no

Coal or Oil fired

Coal

No. and Description of Boilers

2 single ended

Working Pressure

190 lbs

Tested by hydraulic pressure to

335 lb

Date of test

24.4.25

No. of Certificate

3660

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

66 sq. ft.

No. and Description of safety valves to each boiler

2 Cockburns high lift

Area of each set of valves per boiler

per Rule 10.32

as fitted

11.88

Pressure to which they are adjusted

195

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

about 2 feet

Is oil fuel carried in the double bottom under boilers

yes

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

16'-0"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28/32

Thickness

1 3/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

2 R. Lap

long. seams

J.R. & B.S.

Diameter of rivet holes in

circ. seams

1 7/8"

long. seams

1 3/8"

Pitch of rivets

4 3/8" end 4 5/8" inter

Percentage of strength of circ. end seams

plate 67

rivets 69.5

8/plate

Percentage of strength of circ. intermediate seam

plate 69

rivets 62.8

Percentage of strength of longitudinal joint

plate 85.5

rivets 87.5

combined 88.6

Working pressure of shell by Rules

190

Thickness of butt straps

outer 1 3/32"

inner 1 7/32"

No. and Description of Furnaces in each Boiler

3 Deightons

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-10 1/8"

Length of plain part

top

bottom

Thickness of plates

crown 5"

bottom 5/8"

Description of longitudinal joint

welded

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

yes

Working pressure of furnace by Rules

197

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 5/16"

Pitch of stays

2 1/2" x 21"

How are stays secured

D. Nuts & Washers

Working pressure by Rules

192

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

7/8"

13/16"

Mean pitch of stay tubes in nests

13 5/16" x 9"

Pitch across wide water spaces

14"

Working pressure

front 191

back 192

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

at centre

9 3/4" x 1 1/2"

Length as per Rule

35 1/2"

Distance apart

9"

No. and pitch of stays

in each

Three 9"

Working pressure by Rules

192

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

23/32"

Back

1 1/16"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

9" x 9 1/4"

Back

9" x 9 1/4"

Top

9" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

199

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

7/8"

Pitch of stays at wide water space

15" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

199

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay,

3 3/8"

or

Over threads

No. of threads per inch

6

Area supported by each stay

21 1/2" x 21"

Working pressure by Rules

194

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part,

1 3/4"

or

Over threads

No. of threads per inch

9

Area supported by each stay

9" x 9 1/4"

Working pressure by Rules 199 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" }
No. of threads per inch 9 Area supported by each stay 11 1/2" x 9 1/4" Working pressure by Rules 200
Tubes: Material Iron External diameter { Plain 3 1/4" Stay 3 1/4" } Thickness { 8 16 24 32 40 48 56 64 } No. of threads per inch 9
Pitch of tubes 4 7/16" x 4 1/2" Working pressure by Rules 190 Manhole compensation: Size of opening in shell plate 16 x 21 Section of compensating ring 22" x 1 3/8" No. of rivets and diameter of rivet holes 28 - 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 _____ 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 23 inclusive for boilers been complied with yes

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

M. S. H. Manufacturer.

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

See attached report on Machinery

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

Total No. of visits ✓

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

See accompanying machinery report

Survey Fee £ : ✓ When applied for, _____ 192
Travelling Expenses (if any) £ : ✓ When received, _____ 192

R. D. Shilston.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 7 AUG 1925

Assigned _____



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Foundation