

REPORT ON BOILERS.

No. 16414

Received at London Office

2 JUL 1926

Date of writing Report

1st July 1926

When handed in at Local Office

1st July 1926

Port of WEST HARTLEPOOL

No. in
Reg. Book.

Survey held at

West Hartlepool

Date, First Survey

8 Dec/25

Last Survey

24 June 1926

No. on the

S. S. "FIRBY"

(Number of Visits

79)

Tons

Gross 4867.75

Net 2998.91

Master

Built at West Hartlepool By whom built Wm Gray & Co.

Yard No. 979

When built 1926

Engines made at

West Hartlepool By whom made Central Marine Engine

Engine No. 979

When made 1926

Boilers made at

ditto

By whom made

Works

Boiler No. 979

When made 1926

Nominal Horse Power

Owners

Roppon Shipping Co Ltd

Port belonging to

West Hartlepool

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers

927 sq. ft.

Is forced draught fitted

no

Coal or Oil fired Coal

and Description of Boilers

One single ended

Working Pressure

150 lbs

Tested by hydraulic pressure to

27.5

Date of test

22.3.26

No. of Certificate

3681 Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

34.2

No. and Description of safety valves to each boiler

2 direct spring

Area of each set of valves per boiler

per Rule 7.02

as fitted 16.5

Pressure to which they are adjusted

150

Are they fitted with easing gear

yes

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

no

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

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

✓

Greatest internal dia. of boilers

10'-6"

Length

10'-0"

Shell plates: Material

Steel

Tensile strength

28/32

Thickness

3/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end DR 4ap

Seams J.R. & B.S.

Diameter of rivet holes in

circ. seams 15/16"

long. seams 13/16"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate 75.9

rivets 32.55

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 86.75

rivets 87.1

Working pressure of shell by Rules

154 lbs

Thickness of butt straps

outer 2 1/16"

inner 1 1/16"

No. and Description of Furnaces in each Boiler

2 plain

Material

Steel

Tensile strength

26/30

Smallest outside diameter

38 5/8"

Thickness of plain part

top 5'-11 3/8"

bottom 5'-5 3/8"

Thickness of plates

crown 2 1/2"

bottom 3/2"

Description of longitudinal joint

welded

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

✓

Working pressure of furnace by Rules

157

Plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

27/32

Pitch of stays

16 1/2" x 7 1/2"

Are stays secured

D Nuts & washers

Working pressure by Rules

150 lbs

Plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

27/32 3/4"

Pitch of stay tubes in nests

13 1/2" x 9"

Pitch across wide water spaces

14 1/4"

Working pressure

front 171

back 158

Plates to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

Size

7 3/8" x 1 1/4"

Length as per Rule

27 1/2"

Distance apart

10 1/2"

No. and pitch of stays

No. of stays

2 - 9 1/4"

Working pressure by Rules

153

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

2 1/2"

Back

23/32"

Top

21/32"

Bottom

1"

Pitch of stays to ditto: Sides

9 1/2" x 10 1/2"

Back

10 1/2" x 11 1/4"

Top

9 1/2" x 10 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

153

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

27/32

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

27/32

Pitch of stays at wide water space

14 1/4" x 11 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

176

Main stays: Material

Steel

Tensile strength

28/32

At body of stay

2 3/8"

No. of threads per inch

6

Area supported by each stay

18 1/4" x 12 3/4"

Working pressure by Rules

168

Screw stays: Material

Steel

Tensile strength

26/30

At turned off part

1 5/8"

or

1 3/4"

No. of threads per inch

9

Area supported by each stay

9 1/2" x 10 1/2" x 10 1/2" x 11 1/4"

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Working pressure by Rules 153 Are the stays drilled at the outer ends *no* ✓ Margin stays: Diameter { At turned off part, ✓
or Over threads 1 7/8" ✓
No. of threads per inch 9 ✓ Area supported by each stay 11 1/4" x 12 5/8" Working pressure by Rules 150
Tubes: Material *Iron* ✓ External diameter { Plain 3 1/4" ✓ Thickness { 8 W G ✓
Stay 3 1/4" ✓ 1/4" x 3/16" ✓ No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 187 Manhole compensation: Size of
shell plate 16" x 20" ✓ Section of compensating ring 19 1/2" x 15" ✓ No. of rivets and diameter of rivet holes 32 1 1/2"
Outer row rivet pitch at ends 6 5/8" ✓ 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
Rivets
Internal diameter Working pressure by Rules Thickness of crown No. and
stays Inner radius of crown Working pressure by Rules
How connected to shell Size of doubling plate under dome Diameter of rivet holes
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
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
Rules Pressure to which the safety valves are adjusted Hydraulic test
tubes, castings and after assembly in place Are drain cocks or
to free the superheater from water where necessary

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with

yes. THE CENTRAL MARINE ENGINE WORKS
(L. Gray & Co. Ltd.)
The foregoing is a correct description
J. H. Seaman
DIRECTOR

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

*See attached
report on Machinery*

Are the approved plans of boiler and superheater forwarded herewith
(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 ... £ *See Report* When applied for, 192
Travelling Expenses (if any) £ *on Machinery* When received, 192

R. D. Shilston.

Engineer Surveyor to Lloyd's Register of Pressure

Committee's Minute

FRI. 9 JUL 1926

Assigned

See M.E. rpt. attached



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Foundation