

REPORT ON BOILERS.

No. 34350

pt. 5a.

Received London Office 12 DEC 1945

Date of writing Report

19

When handed in at Local Office

10 DEC 1945

Port of

Sunderland.

No. in Survey held at

Sunderland

Date, First Survey

Last Survey 5 Dec 1945

Book.

"EMPIRE PASSMORE"

(Number of Visits) Gross 974
Net 388

on the

built at

Blyth.

By whom built

Blyth S.B. Co Ld.

Yard No. 313 When built 1945.

engines made at

Sunderland

By whom made

G. Clark (1938) Ld.

Engine No. 1346 When made 1945.

boilers made at

Sunderland

By whom made

G. Clark (1938) Ld.

Boiler No. 1346 When made 1945.

nominal Horse Power

162.

Owners

Ministry of War Transport.

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colville Ld.

(Letter for Record 3.

Total Heating Surface of Boilers

2490 sq ft

Is forced draught fitted

Yes.

Coal or Oil fired

oil

No. and Description of Boilers

Two single ended multitubular return tube marine

Working Pressure 200

Tested by hydraulic pressure to

350

Date of test 28/8/45

No. of Certificate 4605

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 Cockburn Imp' high lift

Area of each set of valves per boiler

per Rule 4.05 0.0

as fitted 4.810

Pressure to which they are adjusted

200

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

2'-1"

Is oil fuel carried in the double bottom under boilers

Yes.

Smallest distance between shell of boiler and tank top plating

1'-4 1/2"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

11'-6 15/16"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

29/33

Thickness

1 1/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

and inter.

DR. lap

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/8"

Pitch of rivets

3 1/4"

4 13/16"

Percentage of strength of circ. end seams

plate 60.55

rivets 44.0

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.6

rivets 91.6

combined 89.5

Thickness of butt straps

outer 25/32"

inner 29/32"

No. and Description of Furnaces in each Boiler

Three Corrugated (Brighton)

Material

Steel

Tensile strength

26/30

Smallest outside diameter

2'-9 3/4"

Length of plain part

top

bottom

Thickness of plates

crown 1/2"

bottom

Description of longitudinal joint

Welded.

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

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1"

Pitch of stays

15" x 15"

How are stays secured

Leather nuts

Tube plates: Material

front Steel

back

Tensile strength

26/30

Thickness

1" 25/32"

Mean pitch of stay tubes in nests

8" x 10 5/8"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33

Depth and thickness of girder

at centre

11" x 1 1/16"

Length as per Rule

3'-0"

Distance apart

4"

No. and pitch of stays

in each

Tensile strength

26/30

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

10" x 8 1/2"

Back

10" x 8 1/2"

Top

Are stays fitted with nuts or riveted over

Nuts (riveted at shell outside)

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

1"

Pitch of stays at wide water space

14 1/2" x 10"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay, 2 1/2"

Over threads, 2 3/4"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, 1 3/4"

Over threads

No. of threads per inch

9



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Are the stays drilled at the outer ends no. Margin stays: Diameter ^{At turned off part.} 2" _{or Over threads}

No. of threads per inch 9.

Tubes: Material P.D. Steel External diameter ^{Plain} 3" _{Stay} 3" Thickness 8 lbs. 7/16 - 3/8 No. of threads per inch 9.

Pitch of tubes 4" x 4 1/4" Manhole compensation: Size of opening in shell plate 20 1/8" x 16 1/8" Section of compensating ring 4 1/16" x 1 1/16" No. of rivets and diameter of rivet holes 32 @ 1 3/8"

Outer row rivet pitch at ends 10" Depth of flange if manhole flanged 3 3/4" 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 _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____

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 _____ Manufacturers of ^{Tubes} _{Steel forgings} _____ _{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 _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: tubes _____ forgings and 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,
 GEORGE GEARK (1908) LTD
 Manufacturer.
Wm. J. Perry Retained for
 (If not state date of approval.) Swiss Vessel

Dates of Survey ^{During progress of work in shops - -} Please see Rpt. 4. _{while building} ^{During erection on board vessel - - -}

Are the approved plans of boiler and superheater forwarded herewith _____
 Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Empire Pavilion Id Rpt. 34291

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey in accordance with the approved Plans, Specification & the rule of the Society. The materials & workmanship are good. On completion they were tested by hydraulic pressure of 350 lbs. & found tight & sound at that pressure. The boilers have been securely fitted on board the vessel, fitted to burn oil fuel (F.P. above 150°F) Section 20 of the rules has been complied with & the Safety valves adjusted to working pressure in accordance with rule requirements. In recommendation please see Machy Rpt.

Survey Fee ... See Machy Rpt. When applied for, 19
 Travelling Expenses (if any) £ See Machy Rpt. When received, 19

W. J. Perry
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 15 MAR 1946
 Assigned See F. E. machy. rpt.