

REPORT ON BOILERS.

No. 100,073

Received at London Office

- 9 JAN 1942

Date of writing Report

19

When handed in at Local Office

3/11/42

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book.

Survey held at Newcastle on Tyne

Date, First Survey

29/11/41

Last Survey

31/12/1941.

on the M.V. "BRITISH CHARACTER"

(Number of Visits)

Gross 8453.

Tons Net 4897

Master

Built at Newcastle

By whom built

Swan, Hunter & Wigham Richardson Ltd

Yard No. 1698

When built 1941-

Engines made at

Newcastle

By whom made

ditto

Engine No. 1698

When made 1941-

Boilers made at

Newcastle

By whom made

ditto

Boiler No. 1698

When made 1941-

Nominal Horse Power

235

Owners

British Tanker Co. Ltd

Port belonging to

London

MULTITUBULAR BOILERS - ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

Steel Coy. of Scotland

(Letter for Record 5.)

Total Heating Surface of Boilers

3530 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

oil fired on

No. and Description of Boilers

Two Single ended

Working Pressure

150 lbs/sq in.

Tested by hydraulic pressure to

275 lb

Date of test

1/8/41

No. of Certificate

904. Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

oil fired

No. and Description of safety valves to each boiler

Two 2 1/2" dia Cochran's Imp High Lift.

Area of each set of valves per boiler

per Rule

7.56 sq in.

as fitted

7.95

Pressure to which they are adjusted

150 lb

Are they fitted with easing gear

Yes

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

no main Boilers

Smallest distance between boilers or uptakes and bunkers or woodwork

2'3" - but bottom of boiler

OF Bunkers

oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'3"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'4 3/8"

Length

11'0"

Shell plates: Material

Steel

Tensile strength

30 to 34 tons

Thickness

13/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. overlap

long. seams

T.R. Dile butt straps

Diameter of rivet holes in

circ. seams

15/16"

Pitch of rivets

3.08

(Rule max. 6 1/2")

Percentage of strength of circ. end seams

plate 69.59

rivets 42.24

Percentage of strength of circ. intermediate seam

plate none

Percentage of strength of longitudinal joint

plate 85.85

rivets 85.96

combined 88.91

Working pressure of shell by Rules

151 lbs.

Thickness of butt straps

outer 5/8"

inner 3/4"

No. and Description of Furnaces in each Boiler

Two "Deighton" Corrugated

Material

S.

Tensile strength

26 to 30 tons

Smallest outside diameter

43 1/16"

Length of plain part

top

bottom

Thickness of plates

crown 15/32"

bottom

Description of longitudinal joint

Fire welded

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

None

Working pressure of furnace by Rules

156 lbs

End plates in steam space: Material

S.

Tensile strength

26 to 30 tons

Thickness

15/16"

Pitch of stays

17 3/4" x 14 5/8"

How are stays secured

Nuts inside & outside

Working pressure by Rules

152 lbs

Tube plates: Material

front S.

back

Tensile strength

26 to 30 tons

Thickness

15/16"

3/4"

Mean pitch of stay tubes in nests

7 1/2" x 11 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front 183 lbs

back 228 lbs

Girders to combustion chamber tops: Material

S.

Tensile strength

28 to 32 tons

Depth and thickness of girder

at centre

7 3/4" x 7/8" x two

Length as per Rule

30 1/2"

Distance apart

9"

No. and pitch of stays

in each

Two @ 9 3/8"

Working pressure by Rules

153 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

5/8"

Back

3/4"

Top

5/8"

Bottom

5/8"

Pitch of stays to ditto: Sides

9 3/8" x 9"

Back

7 1/2" x 9"

Top

9 3/8" x 9"

Are stays fitted with nuts or riveted over

nuts at both ends; remainder of back stays are riveted inside of back with nuts outside.

Working pressure by Rules

160 lbs min

Front plate at bottom: Material

S.

Tensile strength

26 to 30 tons

Thickness

15/16"

Lower back plate: Material

S.

Tensile strength

26 to 30 tons

Thickness

15/16"

Pitch of stays at wide water space

13 1/2" x 9"

Are stays fitted with nuts or riveted over

with nuts

Working Pressure

155 lbs min

Main stays: Material

S.

Tensile strength

28 to 32 tons

Diameter

At body of stay, or over threads

2 3/8"

No. of threads per inch

6.

Area supported by each stay

246.4 sq in

Working pressure by Rules

159 lbs

Screw stays: Material

S.

Tensile strength

26 to 30 tons

Diameter

At turned off part, or over threads

1 1/2"

No. of threads per inch

9.

Area supported by each stay

84 sq in

Contd. P.T.O. Register Foundation

001559-001567-0163

Working pressure by Rules 15 1/4 Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part.} 1 5/8 x 1 3/4
 No. of threads per inch 9 Area supported by each stay 92.8 sq in Working pressure by Rules 163 lb
 Tubes: Material S. External diameter ^{Plain} 2 1/2 Thickness ^{10 wt.} 4 + 5/16 No. of threads per inch 9
 Pitch of tubes 3 3/4 x 3 3/4 Working pressure by Rules 166 lb Manhole compensation: Size of opening in
 shell plate 20 x 16 Section of compensating ring 17 1/2 x 1 1/16 No. of rivets and diameter of rivet holes 38 of 1 1/8 dia
 Outer row rivet pitch at ends 8 Depth of flange if manhole flanged 2 1/2 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 None Manufacturers of ^{Tubes} _____
 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 _____ 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,
 SWAN, HUNTER, & WILKINSON, LTD. Manufacturer.

Dates of Survey ^{During progress of} work in shops - - - See Machy Report
 while building ^{During erection on} board vessel - - - See Machy Report
 Are the approved plans of boiler and superheater forwarded herewith 9/9/40
 (If not state date of approval.)
 Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. British Harmony, S. H. 1696
New Rpt. No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These Donkey Boilers have been constructed under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.
The Boilers have been efficiently fitted on board and tested under steam under working conditions with satisfactory results.
See also Machinery Rpt. H. 6

Survey Fee ... £ See Rpt. H. 6 When applied for, 19
 Travelling Expenses (if any) £ See Machy When received, 19

A. Watt
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 23 JAN 1942
 Assigned See J.E. Machy Rpt.