

Rpt. 5a.

REPORT ON BOILERS.

No. 18510

Received at London Office...

Date of writing Report. 13th May 1948. When handed in at Local Office. 18/5/48

Port of. MIDDLESBROUGH.

No. in Reg. Book. Survey held at STOCKTON-on-TEES.

Date, First Survey. 1947. Sept. 4th.

Last Survey. 11th May, 1948.

on the "BRITISH FORTUNE"

(Number of Visits. 10.)

Tons { Gross. 6108

Net. 3334

Master. Built at Sunderland By whom built Wm. Doxford & Son.

Engine No. 763

When made. 1949.

Engines made at. Sunderland.

By whom made. Wm. Doxford & Son.

Boilers made at. Stockton-on-Tees.

By whom made. Stockton C.E. & Riley Boilers Ltd.

Boiler No. 7050

When made.

Nominal Horse Power. 516

Owners. British Tanker Co. Ltd.

Port belonging to.

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel. Appleby Frodingham Steel Co. Ltd.

(Letter for Record. S)

Total Heating Surface of Boilers. 2020 sq. ft.

Is forced draught fitted. Yes

Coal or Oil fired. Oil & Exhaust Gas

No. and Description of Boilers. 1 S.E. Multitubular

Working Pressure. 150 lbs

Tested by hydraulic pressure to. 275 lbs

Date of test. 11.5.48.

No. of Certificate. 7242

Can each boiler be worked separately.

Area of Firegrate in each Boiler.

No. and Description of safety valves to each boiler.

3" double high lift

Area of each set of valves per boiler { per Rule. 14.12

as fitted. 15.4

Pressure to which they are adjusted.

150 lbs

Are they fitted with easing gear.

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.

Is oil fuel carried in the double bottom under boilers.

Smallest distance between shell of boiler and tank top plating.

Is the bottom of the boiler insulated.

Largest internal dia. of boilers. 12'10.3/16" Length. 11'6"

Shell plates: Material. Steel

Tensile strength. 29-33

Thickness. 29/32"

Are the shell plates welded or flanged.

Description of riveting: circ. seams { end. DR. Lap

inter.

long. seams. TR. DBS.

Diameter of rivet holes in { circ. seams. 1.1/16"

long. seams. 1.1/16"

Pitch of rivets { 3.187

7.1/16"

Percentage of strength of circ. end seams { plate. 66.6%

rivets. 48.7

Percentage of strength of circ. intermediate seam { plate. 84.9

rivets. 103

Percentage of strength of longitudinal joint { plate. 103

rivets. 103

Working pressure of shell by Rules.

157 lbs

Thickness of butt straps { outer. 23/32"

inner. 27/32"

No. and Description of Furnaces in each Boiler.

2 Deighton Corrugated.

Material. Steel

Tensile strength. 26 - 30

Smallest outside diameter.

3'10"

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.

Working pressure of furnace by Rules.

156 lbs

End plates in steam space: Material. Steel

Tensile strength. 26-30

Thickness. 1"

Pitch of stays.

18" x 17"

How are stays secured. Double nuts and washers screwed into both plates.

Working pressure by Rules.

150 lbs

Tube plates: Material { front. Steel

back.

Tensile strength { 26.30

Thickness { 7/8"

3/4"

Mean pitch of stay tubes in nests.

9.3/8"

Pitch across wide water spaces.

13 1/2"

Working pressure { front. 159 lbs

back. 180 lbs

Girders to combustion chamber tops: Material. Steel

Tensile strength. 28 - 32

Depth and thickness of girder

at centre. 7" - 2 @ 5/8"

Length as per Rule.

2'4"

Distance apart.

9"

No. and pitch of stays

in each. 2 @ 9"

Working pressure by Rules.

152 lbs

Combustion chamber plates: Material. Steel

Tensile strength. 26 - 30

Thickness: Sides. 21/32"

Back. 19/32"

Top. 21/32"

Bottom. 21/32"

Pitch of stays to ditto: Sides.

16" x 9"

Back. 9 1/2" x 8 1/2"

Top. 9" x 9"

Are stays fitted with nuts or riveted over.

nuts

Working pressure by Rules.

152 lbs

Front plate at bottom: Material. Steel

Tensile strength. 26 - 30

Thickness. 7/8"

Lower back plate: Material. Steel

Tensile strength. 26 - 30

Thickness. 3/4"

Pitch of stays at wide water space.

13 1/2"

Are stays fitted with nuts or riveted over.

nuts

Working pressure.

160 lbs

Main stays: Material. Steel

Tensile strength. 28-32

Diameter { At body of stay.

or Over threads.

2.3/4"

No. of threads per inch.

6

Area supported by each stay.

306 sq. in.

Working pressure by Rules.

160 lbs

Screw stays: Material. Steel

Tensile strength. 26-30

Diameter { At turned off part.

or Over threads.

1 1/2"

No. of threads per inch.

9

Area supported by each stay.

31 sq. in.

002550-002558-0135

Lloyd's Register Foundation

Working pressure by Rules. 155 lbs Are the stays drilled at the outer ends. No Margin stays: Diameter { At turned off part, 1 3/8" or Over threads 1 3/8" ✓
No. of threads per inch 9 ✓ Area supported by each stay 103.1 Working pressure by Rules 176 lbs
Tubes: Material Seamless Steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10 S.W.G. ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 3/4" x 3 3/4" ✓ Working pressure by Rules Plain 175 lbs Stay 218 lbs Manhole compensation: Size of opening in
shell plate 21" x 17" ✓ Section of compensating ring 8 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 52 - 1 1/16" ✓
Outer row rivet pitch at ends 7 1/16" ✓ 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 - 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 - 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,
G. M. Riley Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1947. 15. Sept. 1. Oct. 12. Nov. Are the approved plans of boiler and superheater forwarded herewith 9.2.45.
During erection on board vessel - - - 1948. 20. Jan. 6. 16. 21. Apr. 4. 7. Total No. of visits 10.
11 May.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. 7049. Report No. 18445.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under special survey and in accordance with the Rule requirements and approved plan.
The materials and workmanship are good, and on completion the boiler was hydraulically tested to 275 lbs per sq. inch, and found satisfactory.
This boiler is being forwarded to Sunderland for Wm. Doxford's Contract No. 763.

This boiler has been securely fitted on board the vessel, fitted to burn oil fuel (F.P. above 150°F). Safety valves adjusted under steam to working pressure as above. Section 20 of rules has been complied with.
For recommendation please see master's Rpt.

W. H. L. Lister

Survey Fee ... £ 33 : 12 : 0 When applied for 19.5.1948.
Travelling Expenses (if any) £ - When received 19.

G. Roman Hart
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute -
Assigned For units see J.E. Rpt

FEB 25 FEB 1949