

## REPORT ON BOILERS.

MDB. 18249.

No. 104056

7 NOV 1946

Received at London Office

Date of writing Report 20-10-1946 When handed in at Local Office 4-11-46 Port of NEWCASTLE-ON-TYNE.

No. in Reg. Book. Survey held at Wallsend on Tyne Date, First Survey 7<sup>th</sup> AUGUST, 1946 Last Survey 16<sup>th</sup> OCTOBER 1946

on the M/V. "BRITISH EMPRESS" (Number of Visits 8) Gross 8745 Tons Net 4988

Master Built at Haverton Hill on Tyne By whom built Furness S.B.C. &amp; Co Yard No. 391 When built 1947.

Engines made at Sunderland. By whom made Wm. Doxford &amp; Sons Ltd Engine No. 254 When made 1947.

Boilers made at Wallsend By whom made N.E. Mar. E. Co. (1938) Ltd. Boilers No. R-W 2765 When made 1946

Nominal Horse Power of Donkey Blrs 267. Owners British Tankers Co Port belonging to London

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland.

(Letter for Record S.)

Total Heating Surface of Boilers 4004 sq. ft. Is forced draught fitted Yes

Coal or Oil fired oil fired or sub. Gas.

No. and Description of Boilers 2, Single Ended Working Pressure 150 LBS/SQ

Tested by hydraulic pressure to 275 lb Date of test 9-9-46 No. of Certificate 1217. 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 of 2 1/2" Imp H.L. (Cockburns)

Area of each set of valves per boiler {per Rule 7.66 sq. in. Pressure to which they are adjusted 155 lb/sq. in. 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 6'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Fitted on flat above thrust. Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'-10 3/16" Length 11'-6" Shell plates: Material Stl Tensile strength 29 to 33 tons

Thickness 29/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. inter. N12

long. seams T.R., dble butt straps Diameter of rivet holes in {circ. seams 1 1/8" Pitch of rivets {3 1/4" 7"

Percentage of strength of circ. end seams {plate 65.5 rivets 53.4 Percentage of strength of circ. intermediate seam {plate - rivets -

Percentage of strength of longitudinal joint {plate 84.8 rivets 103.8 combined 90.5 Working pressure of shell by Rules 156.7 lb

Thickness of butt straps {outer 3/4" inner 7/8" No. and Description of Furnaces in each Boiler 2 Deighton type Corrugated.

Material Stl Tensile strength 26-30 tons Smallest outside diameter 3'-8 3/16"

Length of plain part {top - bottom Thickness of plates {crown 15/32" Description of longitudinal joint fire weld.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 150.3 lb

End plates in steam space: Material Stl Tensile strength 26 to 30 tons Thickness 1 3/8" Pitch of stays 2'-6" x 1'-4"

How are stays secured Nuts inside &amp; outside Working pressure by Rules 153.6 lb

Tube plates: Material {front Stl Tensile strength {26 to 30 tons Thickness {front 27/32" Back 3/4"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 14 1/2" Working pressure {front 182 lb back 227 lb

Girders to combustion chamber tops: Material Stl Tensile strength 29-33 tons Depth and thickness of girder

at centre 9" x 3/4" dble Length as per Rule 2'-10" Distance apart 10 3/4" No. and pitch of stays

in each 2 at 10 3/4" Working pressure by Rules 175.8 lb Combustion chamber plates: Material Stl.

Tensile strength 26 to 30 tons Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 10 3/4" x 7 1/2" Back 10 3/4" x 7 1/2" Top 10 3/4" x 10 3/4" Are stays fitted with nuts or riveted over

Working pressure by Rules 154 lb min Front plate at bottom: Material Stl Tensile strength 26 to 30 tons

Thickness 27/32" Lower back plate: Material Stl Tensile strength 26 to 30 tons Thickness 13/16"

Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over Remainder - riveted over.

Working Pressure 201 lb Main stays: Material Stl Tensile strength 28-32 tons

Diameter {At body of stay, 3" or Over threads 3 1/4" No. of threads per inch 6. Area supported by each stay 480 sq in

Working pressure by Rules 163.5 lb Screw stays: Material Stl Tensile strength 26-30 tons

Diameter {At turned off part, 1 1/2" or Over threads 1 1/2" No. of threads per inch 9. Area supported by each stay 80.6 sq in

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Working pressure by Rules 155.74 Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 5/8" + 1 3/4" or Over threads. ✓  
No. of threads per inch 9 ✓ Area supported by each stay 94.7 sq in ✓ Working pressure by Rules 160.24 ✓  
Tubes: Material S.D. Steel External diameter { Plain 2 1/2" Stay ✓ Thickness { 10 W.G. No. of threads per inch 9 ✓  
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 217 1/4 ✓ Manhole compensation: Size of opening in

shell plate ✓ Section of compensating ring No. of rivets and diameter of rivet holes  
Outer row rivet pitch at ends Depth of flange if manhole flanged Steam Dome: Material  
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 NIL

Manufacturers of

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 on  
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

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.  
The foregoing is a correct description,

Manufactured

Dates of Survey { During progress of (1946/ AUG. 7, 20, 22, SEPT. 3, 9, 13, 17, OCT. 16 work in shops - - ) Are the approved plans of boiler and superheater forwarded herewith 28-12-46  
while building { During erection on board vessel - - - } (If not state date of approval.)  
Total No. of visits 8

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Furness S.B. yard No. 390 (R-W 2764 Boilers) sent May 1946  
Now Rpt No 103881.

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 plan and the Society's Rules, and the materials and workmanship are good.

The Boilers have been sent to Middlesbrough to Furness S.B. yard to be fitted on board.

These boilers have now been fitted securely on board & examined under working conditions & found satisfactory.

On completion the SV's were adjusted under steam to 155 lb./sq. in.

Thickness of adjusting washers Port Blk. P = 9/32 S = 13/32 Star Blk. P = 13/32 S = 3/8"

Survey Fee

Travelling Expenses (if any)

£ 25-17-0  
£ 12-18-6  
£ 12-18-6

When applied for,

19

When received,

19

R. A. L. & C. A. Stuart

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 2 MAY 1947

Assigned

Sa F.E. mch. rpt.



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