

Rpt. 5a.

## REPORT ON BOILERS.

No. 105407

Received at London Office.

9 JUL 1948

Date of writing Report 19... When handed in at Local Office 7-7-48... Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Wallsend. Date, First Survey 30/12/47 Last Survey 11/6/48

90797 on the M.V. "BRITISH ENDEAVOUR" (Number of Visits 19) Gross 8589.18

4 SUPPLEMENT Tons Net 4753.70

Master Built at Hebburn on Tyne By whom built Hawthorn, Leslie & Co. Ltd Yard No. 695 When built 1949

Engines made at Newcastle (St. Peters) By whom made Hawthorn, Leslie & Co. Ltd Engine No. 4049 When made 1949

Donkey Boilers made at Wallsend By whom made Wallsend Shipway & Eng'g Co. Ltd Donkey Boiler No. 4198 When made 1948

Nominal Horse Power  $\frac{3946}{12} = 329$  Owners BRITISH TANKER Co. Ltd Port belonging to LONDON

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd, Glasgow (Letter for Record S.)

Total Heating Surface of Boilers 3946 sq ft = 2 boilers Is forced draught fitted Yes Coal or Oil fired oil fired

No. and Description of Boilers 2 Single Ended Working Pressure 150 lb/sq in

Tested by hydraulic pressure to 275 lb Date of test 11-6-48 No. of Certificate 11297 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 7.57 sq ft No. and Description of safety valves to each boiler 2 of 2 1/2" bore Rockburn's Imp'd High Lift

Area of each set of valves per boiler as fitted 7.95 Pressure to which they are adjusted 150 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 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 Yes

Largest internal dia. of boilers 13'-0" Length 11'-6" mean Shell plates: Material M. 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. overlap inter NIL

long. seams T.R. dble butt straps Diameter of rivet holes in circ. seams 31/32 Pitch of rivets 3.005

Percentage of strength of circ. end seams plate 68. rivets 43. Percentage of strength of circ. intermediate seam plate 86. rivets 86. combined 89.7 Working pressure of shell by Rules 157 lb.

Percentage of strength of longitudinal joint plate 86. rivets 86. combined 89.7

Thickness of butt straps outer 11/16 inner 13/16 No. and Description of Furnaces in each Boiler 2 of (Beighton type)

Material M. Stl Tensile strength 26-30 tons Smallest outside diameter 46 1/2"

Length of plain part top bottom Thickness of plates crown 1/2 bottom 2 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom NIL Working pressure of furnace by Rules 155 lb.

End plates in steam space: Material M. Stl Tensile strength 26-30 tons Thickness 1 1/4" Pitch of stays 17" x 19 1/2"

How are stays secured Nuts inside & outside Working pressure by Rules 157 lb

Tube plates: Material front M. Stl back M. Stl Tensile strength 26-30 tons Thickness front 1" back 3/4"

Mean pitch of stay tubes in nests 11 1/6" Pitch across wide water spaces 13 1/2" Working pressure front 212 lb back 156 lb

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

at centre 9 1/2" x 3/4" dble Length as per Rule 35 1/2" Distance apart 9 3/4" No. and pitch of stays

in each 3 at 8 3/8" Working pressure by Rules 177 lb Combustion chamber plates: Material M. Stl

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

Pitch of stays to ditto: Sides 8 3/8" x 9 3/4" Back 8 1/2" x 9 1/2" Top 8 3/8" x 9 3/4" Are stays fitted with nuts or riveted over Riveted over

Working pressure by Rules 160 lb min. Front plate at bottom: Material M. Stl Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material M. Stl Tensile strength 26-30 tons Thickness 7/8"

Pitch of stays at wide water space 14" x 8 1/2" Are stays fitted with nuts or riveted over With nuts

Shipping Working pressure 152 lb Main stays: Material M. Stl Tensile strength 28-32 tons

diameter At body of stay 2 3/4" No. of threads per inch 6 Area supported by each stay 17" x 19 1/2"

Over threads Working pressure by Rules 166 lb Screw stays: Material M. Stl Tensile strength 26-30 tons

diameter At turned off part 1 1/2" No. of threads per inch 9 Area supported by each stay 8 3/8" x 9 3/4" max

Conts over.

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Working pressure by Rules. 154 lb Are the stays drilled at the outer ends. No Margin stays: Diameter { At turned off part. 1 1/8"  
Over threads. 1 1/8"  
No. of threads per inch. 9 Area supported by each stay. 8 1/2" x 11 3/4" Working pressure by Rules. 152 lb  
Tubes: Material. S.D. Steel External diameter { Plain. 2 1/2" Thickness. 5/16" No. of threads per inch. 19  
Pitch of tubes. 3 3/4" Horiz x 3 5/8" Vert Working pressure by Rules. 155 lb Manhole compensation: Size of opening in  
shell plate. 16" x 20" Section of compensating ring. 14" x 29/32" No. of rivets and diameter of rivet holes. 52, hole 3 1/32" dia  
Outer row rivet pitch at ends. 7 1/8" Depth of flange if manhole flanged. 2 29/32" Steam Dome: Material. Nil.  
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 { 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,  
FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED  
J.B. Kerr. DIRECTOR

Dates of Survey { During progress of work in shops - - - 17, 22, APR, 8, 14, 20, 21, 23, 26, 29 MAY, 5, 11. Are the approved plans of boiler and superheater forwarded herewith. Yes  
while building { During erection on board vessel - - - JUNE, 11. (If not state date of approval.)  
Total No. of visits. 19

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These two 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 dispatched to Hebburn Shipyard to be fitted on board. SURVEY OF MACHINERY. FIRST SURVEY 17/11/47 LAST SURVEY  
No. OF VISITS 107

The boilers have been satisfactorily installed on board, examined under steam & the safety valves adjusted to the approved pressure

J.A. Oake Newcastle-on-Tyne

27<sup>th</sup> January 1949

SURVEYOR TO LLOYD'S REGISTER  
NEWCASTLE-ON-TYNE

Survey Fee ... £ 57 : 18 : -

Travelling Expenses (if any) £ : :

When applied for, 19

When received, 19

Aulatt

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned In units see J.E. Rpt



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