

REPORT ON BOILERS.

No. 10410

Received at London Office

3 DEC 1946

Date of writing Report 29. 11. 1946 When handed in at Local Office 30. 11. 1946 Port of **NEWCASTLE-ON-TYNE**

No. in Reg. Book. Survey held at **Wallsend** Date, First Survey (1946) **Sept. 9th** Last Survey **Nov. 21st 1946**

on the **M/V "BRITISH ENSIGN"** (Number of Visits 10) Tons { Gross 8738 Net 4984

Master Built at **Haverston Hill** By whom built **Furness S.B.C. L^d** Yard No. **393** When built **1947**

Engines made at **Sunderland** By whom made **Wm. Doxford & Sons L^d** Engine No. **258** When made **1947**

Boilers made at **Wallsend** By whom made **N.E. Mar. Eng. Co (1938) L^d** Boilers No. **R-W 2768** When made **1946**

Nominal Horse Power **267** Owners **British Tankers Co.** Port belonging to **London.**

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

Manufacturers of Steel **Colvilles L^d** (Letter for Record **S.**)

Total Heating Surface of Boilers **4004 sq ft** Is forced draught fitted **Yes** Coal or Oil fired **oil fired**

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

Tested by hydraulic pressure to **275 lb** Date of test **Pat 6-11-46** No. of Certificate **N^o 1227.** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **Oil fired** No. and Description of safety valves to each boiler **2 of 2 1/2 Cochran's Imp'd High Lift**

Area of each set of valves per boiler {per Rule 7.66 sq in as fitted 9.8} 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 Boiler**

Smallest distance between boilers or uptakes and bunkers or woodwork **6'-0"** Is oil fuel carried in the double bottom under boilers **Yes**

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 & 33 tons**

Thickness **29/32"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams {end D.R. inter. Nil} long. seams **T.R. - Dble butt shape** Diameter of rivet holes in {circ. seams 1 5/8" long. seams 1 1/8"}

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

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 1/8"} No. and Description of Furnaces in each Boiler **2 C.f. (Deighton type)**

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

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

Dimensions of stiffening rings on furnace or c.c. bottom **Yes** 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 **Nutted inside + outside** Working pressure by Rules **153.6 lb.**

Tube plates: Material {front back} **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 & 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 **marginal + top plate - nutted. Remainder - 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 **1 3/16"**

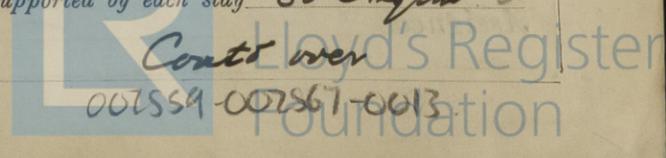
Pitch of stays at wide water space **14 1/2"** Are stays fitted with nuts or riveted over **marginal are nutted. Remainder - riveted over.**

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

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

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

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



Working pressure by Rules **155.7th** Are the stays drilled at the outer ends **NO** Margin stays: Diameter { At turned off part, **1 5/8" & 1 3/4"** }
 No. of threads per inch **9.** Area supported by each stay **94.7 sq inches** Working pressure by Rules **160.2th**
 Tubes: Material **S.D. S&W** External diameter { Plain **2 1/2"** } Thickness { **10 W.G.** } No. of threads per inch **9.**
 Pitch of tubes **3 3/4" x 3 3/4"** Working pressure by Rules **217th** 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 **3 HERTING** 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 { 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 casing 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 NORTH EASTERN MARINE ENGINEERING CO. (1882) LTD. **The foregoing is a correct description.** Manufacturer.
 J. H. Stewart
 DIRECTOR 28-12-45
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 Total No. of visits **10**

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **Furness Yard No 390 N.W.C. Reg. No 103881**
HEM. Blk R-W 2764

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 + the Society's Rules, and the materials + workmanship are good.
 The Boilers have been sent to Furness S.B. Coy's 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 lbs.
 Thickness of adjusting washers Port Blk: P. 13/32 S. 25/64. Star Blk P. 27/64 S. 1/16"

Survey Fee £ **25: 17: -** } When applied for, **27 DEC 1945**
 Travelling Expenses (if any) £ : : } When received, 19

Robt & Norman Stuart
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 13 JUN 1947**

Assigned **See F.E. mch. rpt.**



ML-D