

REPORT ON BOILERS.

No. 101840

Date of writing Report **28 JAN 1944** When handed in at Local Office **28 JAN 1944** Port of **NEWCASTLE-on-TYNE**
 No. in Reg. Book **28 JAN 1944** Date, First Survey **26th May, 1942** Last Survey **24 January 1944**
 on the **SS "UMTATA"** (Number of Visits **1**) Gross **7288** Tons Net **3799**
 Built at **Newcastle** By whom built **Swan, Hunter & Wigham Richardson, Ld.** Yard No. **1740** When built **1944**
 Engines made at **do** By whom made **ditto** Engine No. **1740** When made **"**
 Boilers made at **do** By whom made **ditto** Boiler No. **1740** When made **"**
 Nominal Horse Power **Owners Bullard & King Ld** Port belonging to **LONDON**

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

Manufacturers of Steel **The Steel Coy. of Scotland.** (Letter for Record **S.**)
 Total Heating Surface of Boilers **14,112 sq ft.** Is forced draught fitted **Yes** Coal or Oil fired **oil fired.**
 No. and Description of Boilers **4 Single ended** Working Pressure **225 lb.**
 Tested by hydraulic pressure to **388 lb.** Date of test **4-6-43** No. of Certificate **1045** 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 3/4" dia Cockburn's Imp'd H.L.**
 Area of each set of valves per boiler {per Rule **10.3 sq in** as fitted **11.8** Pressure to which they are adjusted **225 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 Donkey Bdr.**
 Smallest distance between boilers or uptakes and bunkers or woodwork **2'-6"** Is oil fuel carried in the double bottom under boilers **Yes**
 Smallest distance between shell of boiler and tank top plating **2'-6"** Is the bottom of the boiler insulated **Yes**
 Largest internal dia. of boilers **16'-6"** Length **12'-0"** Shell plates: Material **Steel** Tensile strength **32 to 36 tons**
 Thickness **1 3/4"** 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 **1 1/2"** long. seams **1 1/2"** Pitch of rivets {circ. **4.896** long. **10 1/2"**
 Percentage of strength of circ. end seams {plate **42.61** rivets **66.17** Percentage of strength of circ. intermediate seam {plate **84.82** rivets **86.24** combined **86.89**
 Percentage of strength of longitudinal joint {plate **19/64** rivets **17/64**
 Thickness of butt straps {outer **1 9/16"** inner **1 7/8"** No. and Description of Furnaces in each Boiler **Four "Deighton" Corrugated**
 Material **Stl** Tensile strength **26 to 30 tons** Smallest outside diameter **3'-6 1/8"**
 Length of plain part {top **2 1/32"** bottom **2 1/32"** Description of longitudinal joint **fire welded**
 Dimensions of stiffening rings on furnace or c.c. bottom **Nil.**
 End plates in steam space: Material **S.** Tensile strength **26 to 30 tons** Thickness **1 1/32"** Pitch of stays **18 1/2" x 19 1/2"**
 How are stays secured **Screwed into both end plates and nuts outside.**
 Tube plates: Material {front **S.** back **S.** Tensile strength **26 to 30 tons** Thickness {front **1"** back **1 1/8"** center **1 1/16"** wings **7/8"**
 Mean pitch of stay tubes in nests **center 10 1/4"** wings **10 7/8"** Pitch across wide water spaces **14"**
 Girders to combustion chamber tops: Material **S.** Tensile strength **28 to 32 tons** Depth and thickness of girder
 at centre **10 3/4" x 1 1/2"** Length as per Rule **34 15/32"** Distance apart **10" max.** No. and pitch of stays
 in each **3 @ 8"** Combustion chamber plates: Material **S.** Tensile strength **26 to 30 tons** Thickness: Sides **25/32"** Back **23/32"** Top **25/32"** Bottom **25/32"**
 Pitch of stays to ditto: Sides **8 x 9 3/4" max.** Back **9 3/8 x 8 1/2" max.** Top **8 x 10" max.** Are stays fitted with nuts or riveted over **with nuts**
 Front plate at bottom: Material **S.** Tensile strength **26 to 30 tons**
 Thickness **1"** Lower back plate: Material **S.** Tensile strength **26 to 30 tons** Thickness **1 1/16"**
 Pitch of stays at wide water space **14"** Are stays fitted with nuts or riveted over **with nuts**
 Main stays: Material **S.** Tensile strength **28 to 32 tons**
 Diameter {At body of stay, or over threads **3 1/4 x 3 1/2"** No. of threads per inch **6.**
 Screw stays: Material **S.** Tensile strength **26 to 30 tons**
 Diameter {At turned off part, or over threads **1 3/4"** No. of threads per inch **9.**

Contd. P.T.O.

Are the stays drilled at the outer ends *No* Margin stays: Diameter { *2" + 2 1/4"*
No. of threads per inch *9*
Tubes: Material *Steel* External diameter { Plain *3"* Thickness { *7. w.g.* No. of threads per inch *9*
Pitch of tubes *4 1/4" x 4 1/4"* Manhole compensation: Size of opening in
shell plate *Nil (hole in end 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 *Nil*
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate
Internal diameter Thickness of crown No. and diameter of
stays Inner radius of crown
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 *N. E. Smoke tube* Manufacturers of { Tubes *Talbot Stead Co*
Steel forgings *Appleby & Frodingham Steel Co*
Steel castings *✓*
Number of elements *344* Material of tubes *S. D. Steel* Internal diameter and thickness of tubes *17" m + 2.5" m*
Material of headers *7.5" Stl.* Tensile strength *26 to 30 tons* Thickness Can the superheater be shut off and
the boiler be worked separately *Yes* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *Yes*
Area of each safety valve *3.98 sq in (2 1/4" dia)* Are the safety valves fitted with easing gear *Yes*
Pressure to which the safety valves are adjusted *230 lbs.* Hydraulic test pressure:
tubes *1500 lbs.* forgings and castings *675 lbs.* and after assembly in place *450 lbs.* Are drain cocks or
valves fitted to free the superheater from water where necessary *Yes*

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes.*

The foregoing is a correct description,

G. J. Huddy Manufacturer.

21-1-42

Dates { During progress of
of Survey { work in shops - -
while { During erection on
building { board vessel - -

See Rpt. 4

Are the approved plans of boiler and superheater forwarded herewith
(If not state date of approval.)

Total No. of visits

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 Boilers have been constructed under Special Survey in accordance with the Society's Rules and approved plans, and the materials and workmanship are good. The Boilers have been satisfactorily fitted on board the vessel and tested under steam with satisfactory results.

See also Mackay Rpt 4

Survey Fee ... £ *See Rpt. 4* When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

A. Watt.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THURS 9 MAR 1944

Assigned

See fe machy rll



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Foundation