

# REPORT ON BOILERS.

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No. 97170

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Date of writing Report 10 When handed in at Local Office 16/2/39 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **Newcastle on Tyne** Date, First Survey 27/7/37 Last Survey 15/2/39

on the **Steel Motor Vessel "BRITISH TENACITY"** (Number of Visits ) Tons {Gross 8439 Net 4855}

Master \_\_\_\_\_ Built at **Newcastle** By whom built **Swan, Hunter & W. Richardson** Yard No. 1592 When built 1939-2

Engines made at **Sunderland** By whom made **Wm. Duxford Sons & Co** Engine No. 207 When made 1939

Boilers made at **Newcastle** By whom made **Swan Hunter & Wigham Richardson & Co** Boiler No. 1592 When made 1939

Nominal Horse Power ~~778~~ 140. Owners **British Tanker Co.** Port belonging to **LONDON**

## WASTE HEAT <sup>1/2</sup> OR OIL FIRED

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

Manufacturers of Steel **The Steel Coy of Scotland.** (Letter for Record **S.**)

Total Heating Surface of Boilers **2595 sq ft** (0.F.1375 sq ft) is forced draught fitted **Yes** Coal or Oil fired **oil fired & waste heat gas**

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

Tested by hydraulic pressure to **275 lb** Date of test **9/12/38** No. of Certificate **803** 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 - 2 3/4" Cockburn's Improved High Lift Spring loaded**

Area of each set of valves per boiler {per Rule **9.85 sq in** as fitted **11.84** " Pressure to which they are adjusted **150 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 main boilers**

Smallest distance between boilers or uptakes and bunkers **16"** Is oil fuel carried in the **bunker** double bottom under boilers **Yes**

Smallest distance between shell of boiler and **bunker** top plating **16"** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **13'-4 1/2"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **30 & 34 tons**

Thickness **7/8"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams {end **D.R. lap** inter. **none**

long. seams **T.R. Dble butt straps** Diameter of rivet holes in {circ. seams **1"** long. seams **15/16"** Pitch of rivets {**3.24"** **6.625"**

Percentage of strength of circ. end seams {plate **69.18** rivets **42.41** Percentage of strength of circ. intermediate seam {plate **none** rivets **none**

Percentage of strength of longitudinal joint {plate **85.84** rivets **85.55** combined **88.80** Working pressure of shell by Rules **151 lb**

Thickness of butt straps {outer **2 1/32"** inner **25/32"** No. and Description of Furnaces in each Boiler **Two at Wings:- Beighton Corrugated At back centre - plain tube for access**

Material **Steel** Tensile strength **26 to 30 tons** Smallest outside diameter **37 3/16"**

Length of plain part {top **2 1/4"** bottom **2 1/4" c.c. bottom** Thickness of plates {crown **13/32"** bottom **5/8" c.c. bottom** Description of longitudinal joint **Furnaces, fire welded**

Dimensions of stiffening rings on furnace or c.c. bottom **none** Working pressure of furnace by Rules **155 lb**

End plates in steam space: Material **Steel** Tensile strength **26 to 30 tons** Thickness **1 1/32"** Pitch of stays **18" x 18"**

How are stays secured **Dble nuts & washers** Working pressure by Rules **151.5 lb**

Tube plates: Material {front **Steel** back **Steel** Tensile strength {**26 to 30 tons** Thickness {**7/8"** **5/8"**

Mean pitch of stay tubes in nests **9.375"** Pitch across wide water spaces **13 1/2" x 7 3/8"** Working pressure {front **159 lb** back **156 lb**

Girders to combustion chamber tops: Material **Steel** Tensile strength **28-32 tons** Depth and thickness of girder

at centre **7 5/8" x 1 1/4"** Length as per Rule **30 2 1/32"** Distance apart **8 3/4" (max. at Cn)** No. and pitch of stays

in each **two @ 9 3/8"** Working pressure by Rules **151 lb** Combustion chamber plates: Material **Steel**

Tensile strength **26 to 30 tons** Thickness: Sides **5/8"** Back **3/4"** Top **5/8"** Bottom **5/8"**

Pitch of stays to ditto: Sides **9 1/2" x 9 3/8"** Back **9" x 9" c.c.** Top **9 3/8" x 8 3/4"** Are stays fitted with nuts or riveted over **are NUTTED both ends. remainder of back stays are riveted INSIDE c.c. & nuts outside.**

Working pressure by Rules **152 lb** Front plate at bottom: Material **Steel** Tensile strength **26 to 30 tons** Thickness **3/4"**

Lower back plate: Material **Steel** Tensile strength **26 to 30 tons** Thickness **3/4"**

Pitch of stays at wide water space **13 1/2" x 9"** Are stays fitted with nuts or riveted over **Nuts**

Working Pressure **172 lb** Main stays: Material **Steel** Tensile strength **28 to 32 tons**

Diameter {At body of stay, **Two top stays 2 3/4"** or **Others 2 5/8"** No. of threads per inch **6** Area supported by each stay **(18x18)-4.57 sq in**

Working pressure by Rules **155 lb** Screw stays: Material **Steel** Tensile strength **26 to 30 tons**

Diameter {At turned off part, **1 1/2" + 1 5/8"** or **Over threads** No. of threads per inch **9** Area supported by each stay **(9 3/8" x 9 3/8")-1.45 sq in c.c. tops.**



