

REPORT ON BOILERS.

No. 13012

Received at London Office

Date of writing Report 13. 8. 1927 When handed in at Local Office 13. 8. 1927 Port of MIDDLESBROUGH.

No. in Reg. Book. Survey held at MIDDLESBROUGH.

Date, First Survey 23. 3. 27 Last Survey 12 - 8 - 1927.

on the SS. "OTTERHOUND"

(Number of Visits 32.)

Gross 860
Tons Net 409

Master Built at Haverton Hill By whom built Furness S.B. & Co. Ltd. Yard No. 121 When built 1927.

Engines made at Middlesbrough By whom made Richardson, Westgarth & Co. Engine No. 2570 When made 1927.

Boilers made at . do . By whom made . do . Boiler No. 2570 When made 1927.

Nominal Horse Power Owners Coastal Tankers Ltd. Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland.

Total Heating Surface of Boilers 2186 sq. ft. Is forced draught fitted Y. L. ✓ Coal or Oil fired Both. ✓

No. and Description of Boilers 1 - S.E. Marnie 158 Working Pressure 180 lbs.

Tested by hydraulic pressure to 320 lbs. Date of test 21. 6. 27 No. of Certificate 6551 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 54.3 sq. ft. No. and Description of safety valves to each boiler Pair Spring loaded. ✓

Area of each set of valves per boiler { per Rule 16.8 ✓
as fitted 19.24 ✓ Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Y. L. ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers or uptakes and bunkers or woodwork distant ✓ Is oil fuel carried in the double bottom under boilers Y. L. ✓

Smallest distance between shell of boiler and tank top plating open floors ✓ Is the bottom of the boiler insulated Y. L. ✓

Largest internal dia. of boilers 14'-6" 1/2 ✓ Length 11'-6" ✓ Shell plates: Material Steel Tensile strength 29/33 ✓

Thickness 1 7/32 ✓ Are the shell plates welded or flanged Y. L. ✓ Description of riveting: circ. seams { end D.R. ✓
long. seams T.R.D.B.S. { inner 3/8 ✓
Diameter of rivet holes in { circ. seams 1 3/16 ✓
{ long. seams 1 3/16 ✓ Pitch of rivets { 8 1/8 ✓Percentage of strength of circ. end seams { plate 64.8 ✓
{ rivets 43.9 ✓ Percentage of strength of circ. intermediate seam { plate ✓
{ rivets ✓Percentage of strength of longitudinal joint { plate 85.3 ✓
{ rivets 88.2 ✓ Working pressure of shell by Rules 180 lbs. ✓
combined 88.3 ✓Thickness of butt straps { outer 7/8 ✓
{ inner 1" ✓ No. and Description of Furnaces in each Boiler 3 - Corrugated 3 c.f. ✓

Material Steel ✓ Tensile strength 26/30 ✓ Smallest outside diameter 3'-8 5/8 ✓

Length of plain part { top ✓
{ bottom ✓ Thickness of plates { crown 9 1/16 ✓
{ bottom 9 1/16 ✓ Description of longitudinal joint weld. ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 182.7 lbs. ✓

End plates in steam space: Material Steel Tensile strength 26/30. ✓ Thickness 1 1/8 ✓ Pitch of stays 16 1/2 x 19 1/2 (mean) ✓

How are stays secured D.N. ✓ Working pressure by Rules 194 lbs. ✓

Tube plates: Material { front Steel ✓
{ back Steel ✓ Tensile strength { 26/30. ✓
{ 26/30. ✓ Thickness { 13/16 ✓
{ 3/4 ✓Mean pitch of stay tubes in nests 10 3/8" ✓ Pitch across wide water spaces 13 1/2" ✓ Working pressure { front 188 lbs. ✓
{ back 186 lbs. ✓

Girders to combustion chamber tops: Material Steel ✓ Tensile strength 26/30. ✓ Depth and thickness of girder

at centre 8 1/2 x 13 (double) ✓ Length as per Rule 2'-9 13/32 ✓ Distance apart 8 1/4" ✓ No. and pitch of stays

in each 3 - 8" x 8 1/4" ✓ Working pressure by Rules 186 lbs. ✓ Combustion chamber plates: Material Steel ✓

Tensile strength 26/30. ✓ Thickness: Sides 11/16 ✓ Back 19/32 ✓ Top 19/32 ✓ Bottom 11/16 ✓

Pitch of stays to ditto: Sides 8 x 8 1/4 ✓ Back 8 1/2 x 7 7/8 ✓ Top 8 x 8 1/4 ✓ Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 180 lbs. ✓ Front plate at bottom: Material Steel Tensile strength 26/30. ✓

Thickness 13/16 ✓ Lower back plate: Material Steel Tensile strength 26/30. ✓ Thickness 25/32 ✓

Pitch of stays at wide water space 13 1/4 x 7 7/8 ✓ Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 216 lbs. ✓ Main stays: Material Steel Tensile strength 28/32 ✓

Diameter { At body of stay, or 2 7/8 ✓
{ Over threads 2 7/8 ✓ No. of threads per inch 6 ✓ Area supported by each stay 317 sq. in. ✓

Working pressure by Rules 192. ✓ Screw stays: Material Steel Tensile strength 26/30. ✓

Diameter { At turned off part, or 1 1/2 ✓
{ Over threads 1 1/2 ✓ No. of threads per inch 9 ✓ Area supported by each stay 67 sq. in. ✓

Working pressure by Rules 186 lbs Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, or Over threads 1 1/8"
 No. of threads per inch 9 Area supported by each stay 81 sq Working pressure by Rules 187 lbs
 Tubes: Material Steel External diameter { Plain 2 1/2" Thickness { 9 w.g. No. of threads per inch 9
 Stay 2 1/2" Pitch of tubes 3 3/4" x 3 7/8" Working pressure by Rules phi = 230. S = 193. Manhole compensation: Size of opening in
 shell plate 13' x 16 1/2' Section of compensating ring 4 3/4" x 1 5/32" No. of rivets and diameter of rivet holes 32 - 1 1/16"
 Outer row rivet pitch at ends 8 1/4" 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 Manufacturers of { Tubes 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 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 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,
 For RICHARDSON, WESTGARTH & Co. LIMITED

Manufacturer.

Dates of Survey { During progress of work in shops - - - Mar 23-26 Apr 1-6-14 20-27 May 5-11-14 25-25 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes
 while building { During erection on board vessel - - - Mar 18-16-21-24-28-30 Jul 6-8-9-11-12-14-20
 22-27-28 Aug 2-5-12 Total No. of visits 32

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. This boiler, which has been built under special survey in accordance with the Rules and approved Plan, has been securely fitted aboard and its safety valves have been adjusted and tested under steam to Rule Requirements.

Survey Fee See Machinery Report. When applied for, 192
 Travelling Expenses (if any) See Machinery Report. When received, 192

M. Ma.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 2 SEP 1927

Assigned see minute on Indb. Rpt. 13012 attached



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