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# REPORT ON BOILERS.

No. 18238

6 - MAY 1942

Received at London Office

- 5 FEB 1942

of writing Report 4/2 1942 When handed in at Local Office 4/2 1942 Port of WEST HARTLEPOOL

o. in Survey held at WEST HARTLEPOOL Date, First Survey 10<sup>th</sup> October, 1941, Last Survey 30<sup>th</sup> January 1942

Book. (Number of Visits 14) Gross Tons 571  
Net Tons 167

on the H.M.T. YES TOR

at Beverly By whom built Cook, Bell & Grinnell Ltd Yard No. 686 When built 1942-4

Engines made at Hull By whom made C. D. Holmes & Co Engine No. 1602 When made do.

Boilers made at West Hartlepool By whom made Central Marine Engine Works Boiler No. R349 When made 1942.

Indicated Horse Power 156. Owners The Admiralty Port belonging to

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

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

Total Heating Surface of Boilers 2358 sq ft Is forced draught fitted Coal or Oil fired Coal.

No. and Description of Boilers 1 Single ended multitubular Working Pressure 220 lbs/sq in.

Tested by hydraulic pressure to 380 lbs/sq in. Date of test 30-1-42 No. of Certificate 3957 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 63 1/2 sq ft No. and Description of safety valves to each boiler 2 - Spring loaded.

Area of each set of valves per boiler { per Rule 15.15 } Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes  
{ as fitted 16.59 }

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

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Yes Is the bottom of the boiler insulated clb.

Largest internal dia. of boilers 15'-6" Length 11'-0" Shell plates: Material Steel Tensile strength 31-35 tons

Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. LAP. }  
{ inter. DR LAP. }

Long. seams TR Double butt straps Diameter of rivet holes in { circ. seams 1 1/32" } Pitch of rivets { 3 3/4" }  
{ long. seams 1 7/16" } { 9 3/8" }

Percentage of strength of circ. end seams { plate 62.6 } Percentage of strength of circ. intermediate seam { rivets 43.7 }  
{ rivets 84.66 }  
{ combined 86.47 }

Percentage of strength of longitudinal joint { plate 84.66 }  
{ rivets 85.67 }  
{ combined 86.47 }

Thickness of butt straps { outer 1 3/32" } No. and Description of Furnaces in each Boiler 3 Corrugated Deighton section  
{ inner 1 1/32" }

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-9 1/2"

Length of plain part { top 1 1/16" } Thickness of plates { crown 1 1/16" } Description of longitudinal joint welded.  
{ bottom 1 1/16" }

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 7/32" Pitch of stays 18 3/4" x 18 3/4"

How are stays secured Double nuts and washers.

Tube plates: Material { front Steel } Tensile strength { 26-30 tons } Thickness { 1 5/16" }  
{ back Steel } { 26-30 tons } { 3/32" }

Mean pitch of stay tubes in nests 9 1/2" x 9" 10 1/2" Pitch across wide water spaces 14 1/2"

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

at centre 9 1/2" x 1 3/4" 2-3/8" length as per Rule 2'-9 13/32" Distance apart 9 1/2" No. and pitch of stays

in each 3 @ 7 3/8" Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 1 1/16" Top 1 1/16" Bottom 1 5/16"

Pitch of stays to ditto: Sides 9 1/2" x 8 1/4" Back 9" x 8 1/4" Top 9 1/2" x 7 3/8" Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 1 5/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 29/32"

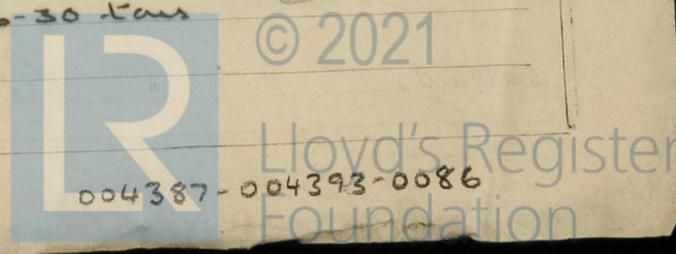
Pitch of stays at wide water space 14 1/2" x 9" Are stays fitted with nuts or riveted over Nuts.

Main stays: Material Steel Tensile strength 28-32 tons

Diameter { At body of stay, 3 1/2" } No. of threads per inch 6  
{ Over threads 3 1/2" }

Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 3/4" } No. of threads per inch 9.  
{ Over threads 1 3/4" }



REF

Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, - or Over threads 2" ✓

No. of threads per inch 9 ✓ Tubes: Material L.W. IRON External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8.15 W.G. 1/8" 5/16" 3/8" 1/2" No. of threads per inch 9

Pitch of tubes 4 5/8" x 4 1/2" Manhole compensation: Size of opening 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 \_\_\_\_\_ Steam Dome: Material Steel

Tensile strength 26-30 tons Thickness of shell 3/4" Description of longitudinal joint S.R. LAP.

Diameter of rivet holes 1 1/32" Pitch of rivets 2 1/4" Percentage of strength of joint { Plate 54 Rivets 43.8

Internal diameter \_\_\_\_\_ Thickness of crown 7/8" No. and diameter of stays 2 @ 2 3/8" Inner radius of crown 7/8" flat

How connected to shell Double rivets Size of doubling plate under dome 4-11 1/4" DIA 1 1/32" THICK Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 7/16" x 4" 10 1/4" u. double

Type of Superheater

Manufacturers of { Tubes Steel forgings Steel castings Internal diameter and thickness of tubes \_\_\_\_\_ 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 \_\_\_\_\_ Are the safety valves fitted with easing gear \_\_\_\_\_

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_

Material of headers \_\_\_\_\_ Area of each safety valve \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Are drain cocks or tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_

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 \_\_\_\_\_

The foregoing is a correct description, FOR THE CENTRAL MARINE ENGINEERS, (32, Old & Co. St.) Manufacturer.

Dates of Survey { During progress of work in shops - - 1941. Oct. 18-28 Nov. 11, 21 Dec. 4, 10, 29, 31. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) while building { During erection on board vessel - - - 1942. Jan. 8, 9, 12, 14, 24, 30. Total No. of visits 14

Is this Boiler a duplicate of a previous case yes ✓ If so, state Vessel's name and Report No. R347 RPTN° 18219.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under special survey - and in accordance with the approved plans for a working pressure of 220 lbs per square inch. The materials and workmanship have been found good. Upon completion the boiler was tested in the presence of the undersigned by a hydraulic pressure of 380 lbs per square inch, showed no signs of weakness and was found tight and sound in every respect at that pressure. This boiler is to fitted in class "B.D. Holmes, ex 1602.

Survey Fee ... £ 15 : 14 : 0 When applied for, 4/2/42  
 Travelling Expenses (if any) £ : : When received, 19

Arthur H. Oxford  
 Engineer Surveyor to Lloyd's Register of Shipping.

*(Signature)*  
 do (Hull)

FRI. 15 MAY 1942

Committee's Minute

Assigned

See Hull J.C. 51593



Date of writing Report.....  
 No. in Survey held Reg. Book. ....  
 on the.....  
 Built at Deer  
 Owners.....  
 Electrical Installation.....  
 Is vessel fitted for.....  
 Have plans been submitted.....  
 Heating 110 Pot.....  
 has the governing be.....  
 trip switch as per R.....  
 if not compound w.....  
 arranged to run in.....  
Poshee  
 test for machines.....  
 of the generators.....  
 near unprotected.....  
 injury and dam.....  
 contact Gr.  
 are they in acc.....  
 and oil Gr.  
 material is us.....  
 semi-insulatin.....  
 Is the constr.....  
 to pilot and.....  
 side of switc.....  
 and for ea.....  
 Are comp.....  
 ammeters.....  
 equaliser.....