

b.9.
REPORT ON BOILERS.

No. 18216

Received at London Office 20 NOV 1941

Date of writing Report 17/11/41 When handed in at Local Office 18/11/41 Port of WEST HARTLEPOOL.

No. in Reg. Book. Survey held at WEST HARTLEPOOL. Date, First Survey 1st October Last Survey 7th November 1941

on the H.M.T. "DUNCTON" (Number of Visits 8) Tons Gross 571 Net 167

Built at Beornby By whom built Cook, Delta & Gammell & Co. Yard No. 684 When built 1942-2

Engines made at Steel By whom made E.D. Holmes & Co. Engine No. 1600 When made 1942-2

Boilers made at West Hartlepool By whom made Central Marine Engine Works Boiler No. R346 When made 1941.

Nominal Horse Power 156. Owners The Admiralty Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs Colvilles & Co. Glasgow. (Letter for Record S.)

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

No. and Description of Boilers 1 single ended multitubular Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 7-11-41 No. of Certificate 3947. Can each boiler be worked separately

Area of Firegrate in each Boiler 634 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 as fitted 16.59 Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes

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 12" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated No.

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

Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams {and D.R. LAP. inter. 3 3/4" Pitch of rivets 9 3/8"

long. seams TR Double butt straps Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 7/8" Percentage of strength of circ. end seams {plate 62.6 rivets 43.7 Percentage of strength of circ. intermediate seam {plate rivets

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

Thickness of butt straps {outer 1 3/2" inner 1 3/2" No. and Description of Furnaces in each Boiler 3 Deighton section.

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-9 3/8"

Length of plain part {top bottom Thickness of plates {crown 1 1/2" bottom 1 1/2" Description of longitudinal joint welded.

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

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/2" Pitch of stays 18 3/4" x 18 3/4"

How are stays secured Double nuts and washers.

Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons Thickness {1 5/16" 2 9/32"

Mean pitch of stay tubes in nests 9 1/4" x 9" 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" 2-3/4" plates length as per Rule 2'-9 1/2" Distance apart 9 1/4" No. and pitch of stays in each 3 @ 7 3/8"

Combustion chamber plates: Material Steel Tensile strength 26-30 tons Thickness: Sides 2 3/32" Back 1 1/2" Top 1 1/2" Bottom 1 1/2"

Pitch of stays to ditto: Sides 9 1/2" x 8 1/4" Back 9 x 8 1/4" Top 9 1/4" 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 2 9/32"

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, or Over threads 3 3/4" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26-30 tons

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

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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 LW IRON External diameter { Plain 3 1/4" Stay 3 1/4" } Thickness { 8 1/2 SWG 5/16" 3/8" 7/16" } No. of threads per inch 9

Pitch of tubes 4 5/8" x 4 1/2" 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 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 1/2" Pitch of rivets 2 1/4" Percentage of strength of joint { Plate 54 Rivets 43.8 }

Internal diameter 2'-9" Thickness of crown 3/8" No. and diameter of stays 2 @ 2 3/8" Inner radius of crown 3/8"

How connected to shell Double rivets Size of doubling plate under dome 4-11 1/2" DIA 1 1/2" thick Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 7/16" x 4"

Type of Superheater 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 easing gear

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 ☒

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS.

(20. May 4 to 31.7)

Manufacturer.

Dates of Survey { During progress of work in shops - - - } 1941. Oct. 1-10-20-23-28 Nov. 4-6-7 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 17-6-41

while building { During erection on board vessel - - - } Total No. of visits 8

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.) This boiler has been constructed under Special Survey and in accordance with the approved plans for a working pressure of 220 lbs² 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 were found tight and sound in every respect at that pressure.

This boiler is to be fitted in aux² B.D. Holmes exo 1600.

Survey Fee ... £ 15 : 14 : 0 When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

Arthur W. Oxford & J. P. Hall
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 10 MAR 1942

Assigned

See Hnl A.C. 51525



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