

REPORT ON BOILERS.

No. 69439

Received at London Office

21 MAR 1945

Report 15-2-1945 When handed in at Local Office 17-3-1945 Port of GLASGOW

No. in Survey held at Paisley Date, First Survey 28-7-44 Last Survey 12-3-1945

on the STEEL SINGLE SCREW BOOM DEFENCE H.M.S. "BARITONE" (J6139) (Number of Visits 11) Tons {Gross 625.68 Net 291.99}

Built at Dartmouth By whom built Messrs Philipson & Sons Yard No. 6139 When built 1945

Engines made at HULL By whom made CHARLES D. HOLMES LTD Engine No. E1 When made 1945

Boilers made at Paisley By whom made Messrs A. F. Craig & Co Ltd Boiler No. 838 When made 1945

Nominal Horse Power 210 Owners The Admiralty Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd 1920 = 3840 ex front tube plate (Letter for Record S)

Total Heating Surface of Boilers 1950 sq ft (EACH) Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 2 Single Ended Working Pressure 200 lbs/sq in

Tested by hydraulic pressure to 350 lbs Date of test 14-2-45 No. of Certificate 21849 Can each boiler be worked separately YES

Area of Firegrate in each Boiler 49 sq ft No. and Description of safety valves to each boiler ONE COCHBURN ORDINARY DOUBLE WAVE

Area of each set of valves per boiler {per Rule 11.880" Pressure to which they are adjusted 205 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 and bunkers 4' 6" Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 13'-0" 1/16" Length 10'-9" Shell plates: Material Steel Tensile strength 29.37 Tons

Thickness 15/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end 29.37 Tons

Long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 17/32" Pitch of rivets {3.646" 8 1/2"

Percentage of strength of circ. end seams {plate 66.5% rivets 43.5% Percentage of strength of circ. intermediate seam {plate 85.64% rivets 88.26%

Percentage of strength of longitudinal joint {combined 88.94% Working pressure of shell by Rules -

Thickness of butt straps {outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 corrugated

Material Steel Tensile strength 26-30 Tons Smallest outside diameter 2'-11 1/4"

Length of plain part {top 1 1/2" bottom 1 1/2" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules -

End plates in steam space: Material Steel Tensile strength 26-30 Tons Thickness 1 1/8" Pitch of stays 18 1/4" x 15 3/4"

How are stays secured D. Nuts Working pressure by Rules -

Tube plates: Material {front Steel back Steel Tensile strength 26-30 Tons Thickness 7/8" 25/32"

Mean pitch of stay tubes in nests 9" Pitch across wide water spaces 1'-15 1/8" Working pressure {front - back -

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

at centre 8 1/2" 2 @ 7/8" Length as per Rule 2'-4 7/16" Distance apart 9" No. and pitch of stays

in each 2 @ 9 1/2" Working pressure by Rules - Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons Thickness: Sides 3/4" Back 25/32" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 10 3/8" x 9 1/2" Back 9 3/4" x 9 1/16" Top 9 1/2" x 9" Are stays fitted with nuts or riveted over Nuts in c/c's

Working pressure by Rules - Front plate at bottom: Material Steel Tensile strength 26-30 Tons

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 Tons Thickness 7/8"

Pitch of stays at wide water space 14 5/8" x 9 1/16" Are stays fitted with nuts or riveted over Nuts

Working Pressure - Main stays: Material Steel Tensile strength 28-32 Tons

Diameter {At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay -

Working pressure by Rules - Screw stays: Material Steel Tensile strength 26-30 Tons

Diameter {At turned off part, 1 7/8" No. of threads per inch 9 Area supported by each stay -

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Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ No ✓ Margin stays: Diameter { ~~turned off part~~ Over threads **2" 2 1/8" Top**

No. of threads per inch **9** ✓ Area supported by each stay - Working pressure by Rules -

Tubes: Material **HR steel** External diameter { Plain } **2 3/4"** Thickness { **8 LWS** } No. of threads per inch **9**

Pitch of tubes **3 1/8" x 3 1/8"** Working pressure by Rules - Manhole compensation: Size of opening of rivets and diameter of rivet holes **32 - 1 5/16"**

shell plate **16" x 20"** Section of compensating ring **1 3/16" Flanged plate**

Outer row rivet pitch at ends **10"** Depth of flange if manhole flanged - Steam Dome: Material **None** ✓

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 of rivets in outer row in dome connection to shell

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 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 at Rules

Pressure to which the safety valves are adjusted Hydraulic test pressure tubes forgings and castings and after assembly in place Are drain cocks 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 **Yes**

The foregoing is a correct description, **F. CRAIG & CO. LTD.** Manufactured by **W. F. Moorey**

Dates of Survey { During progress of work in shops - - - 1944 July 28 Oct 20.21 Nov 18 Dec 11 } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) **1-6**

while building { During erection on board vessel - - - 17th MARCH 1945 } Total No. of visits **11**

24th AUG. 1945 No. of visits **12**

Is this Boiler a duplicate of a previous case ☒ No ✓ If so, state Vessel's name and Report No. **HMS BARON 96568340**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **These boilers have been constructed under Special Survey in accordance with the Rule Requirements & approved plans.**

The materials and workmanship are good.

These boilers have been dispatched to Dartmouth for installation in Messrs Philip & Sons Ltd, Dartmouth, J.6139.

THESE BOILERS HAVE NOW BEEN SATISFACTORILY INSTALLED IN THE VESSEL IN ACCORDANCE WITH THE RULES AND SPECIFICATION.

AFTERWARDS TRIED UNDER STEAM DURING A SEA TRIAL AND FOUND SATISFACTORY UNDER FULL WORKING CONDITIONS. THE SAFETY VALVES WERE ADJUSTED TO 205 LBS.

THE BOILERS ARE ELIGIBLE IN MY OPINION FOR CLASSIFICATION AS 'A'

Survey Fee ... £ **Agreed Fee.** } When applied for, 19

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

P. Weston & R. J. Hartley
Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute **GLASGOW 20 MAR 1945**

Assigned **Deferred for Completion.**

See F.E. machy. rpt.
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