

# REPORT ON BOILERS.

No. 69439

RECEIVED  
MAR 1945

Received at London Office

21 MAR 1945

Date of writing 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) Gross 625.68 Tons 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

Indicating Horse Power 210 Owners **The Admiralty** Port belonging to

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

Manufacturers of Steel **Bolnipples Ltd** 1920# = 3840. ex front tube plate (Letter for Record **S**)

Total Heating Surface of Boilers **1950# (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 **21879** Can each boiler be worked separately **YES**

Area of Firegrate in each Boiler **49#** No. and Description of safety valves to each boiler **ONE COCHURN ORDINARY DOUBLE WAVE**

Area of each set of valves per boiler **As APPROVED** 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 **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 **DR**

Long. seams **T.R.D.B.S.** Diameter of rivet holes in circ. seams **17/32"** Pitch of rivets **3-6/16"**

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  bottom  Thickness of plates crown **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 5/8"** 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 back plates**

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 -

Working pressure by Rules  Are the stays drilled at the outer ends No Margin stays: Diameter 2" 2/8 Top  
 No. of threads per inch 9 Area supported by each stay - Working pressure by Rules -  
 Tubes: Material HR steel External diameter 2 3/4" Thickness 8 LWS No. of threads per inch 9  
 Pitch of tubes 3 7/8" x 3 7/8" Working pressure by Rules - Manhole compensation: Size of opening 32 - 1 5/16"  
 shell plate 16" x 20" Section of compensating ring 3/16 Flanged plate of rivets and diameter of rivet holes 32 - 1 5/16"  
 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 -  
 Internal diameter - Working pressure by Rules - Thickness of crown - No. and diameter of stays -  
 How connected to shell - Inner radius of crown - Working pressure by Rules -  
 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 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. Manufacture

Dates of Survey 1944 July 28 Oct 20.26 Nov 18 Dec 11  
 During progress of work in shops 1945 Feb 7, 9, 14, 16, 22 Mar 12  
 while building 17th MARCH 1945  
 During erection on board vessel 24th AUG: 1945  
 Are the approved plans of boiler and superheater forwarded herewith 1-6-  
 (If not state date of approval.)  
 Total No. of visits 11  
 No. of visits 12

Is this Boiler a duplicate of a previous case Yes 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 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 'RE'

Survey Fee ... .. £ Agreed fee. } When applied for, ... .. 19  
 Travelling Expenses (if any) £ Agreed fee. } When received, ... .. 19

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

Committee's Minute GLASGOW 20 MAR 1945

Assigned Referred for completion.

