

REPORT ON BOILERS.

No. 50743

Received at London Office

JUN 27 1940

22 JUN 1940

Date of writing Report *22/6/40* When handed in at Local Office Port of **HULL**

No. in Survey held at **Hull** Date, First Survey **15.8.39** Last Survey **12-6-1940**

on the **H.M.S. BAY** (Number of Visits **61**) Gross **450.34** Tons Net **149.15**

Built at **Delby** By whom built **Bochrane & Sons Ltd.** Yard No. **1209** When built **1940-**

Engines made at **Hull** By whom made **Elmer Smith Ltd.** Engine No. **670** When made **1940-6**

Boilers made at **do** By whom made **do** Boiler No. **do** When made **1940-6**

Nominal Horse Power **156** Owners **The Admiralty** Port belonging to **do**

This was 2606 for "Juniper" Mangrove built at Delby & York

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **Appley-Frodingham Steel Co. Ltd.** (Letter for Record **S**)

Total Heating Surface of Boilers **2650** Is forced draught fitted **Yes** Coal or Oil fired **Coal**

No. and Description of Boilers **One S.B.** Working Pressure **200 lbs/sq**

Tested by hydraulic pressure to **350 lbs/sq** Date of test **19/2/40** No. of Certificate **4023** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **63** No. and Description of safety valves to each boiler **2 - spring loaded**

Area of each set of valves per boiler **15.4** as fitted **16.6** Pressure to which they are adjusted **200 lbs/sq** Are they fitted with easing gear **Yes**

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 **2'-0"** Is oil fuel carried in the double bottom under boilers **No**

Smallest distance between shell of boiler and tank top plating **None** Is the bottom of the boiler insulated **No**

Largest internal dia. of boilers **177.975"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **29/32 tons/sq**

Thickness **4 2/32"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams **end D.R. - P.H.** inter. **None**

long. seams **T.R. - D.B.S.** Diameter of rivet holes in circ. seams **1.375"** Pitch of rivets **4"** long. seams **1.375"** Pitch of rivets **9.5"**

Percentage of strength of circ. end seams plate **65.68** rivets **44.78** Percentage of strength of circ. intermediate seam plate **85.58** rivets **88.58**

Percentage of strength of longitudinal joint plate **85.58** rivets **88.58** combined **88.88**

Thickness of butt straps outer **34/32"** inner **36/32"** No. and Description of Furnaces in each Boiler **3 - CF**

Material **Steel** Tensile strength **26/30 tons/sq** Smallest outside diameter **42.4375"**

Length of plain part top **Yes** bottom **Yes** Thickness of plates crown **19/32"** bottom **19/32"** Description of longitudinal joint **Weld.**

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

End plates in steam space: Material **Steel** Tensile strength **26/30 tons/sq** Thickness **43/32"** Pitch of stays **21" x 20 max**

How are stays secured **Nuts inside & out**

Tube plates: Material front **Steel** back **Steel** Tensile strength **26/30 tons/sq** do. Thickness **28/32"** **25/32"**

Mean pitch of stay tubes in nests **9.6875"** Pitch across wide water spaces **13.625"**

Girders to combustion chamber tops: Material **Steel** Tensile strength **28/32 tons/sq** Depth and thickness of girder

at centre **8.25" x 60/32"** Length as per Rule **31.46875"** Distance apart **10.75** No. and pitch of stays

in each **2 - 9.875"** Combustion chamber plates: Material **Steel**

Tensile strength **26/30 tons/sq** Thickness: Sides **25/32"** Back **24/32"** Top **25/32"** Bottom **25/32"**

Pitch of stays to ditto: Sides **10.75 x 9.875** Back **9.25 x 9.875** Top **9.875 x 10.75** Are stays fitted with nuts or riveted over **Nuts**

Front plate at bottom: Material **Steel** Tensile strength **26/30 tons/sq**

Thickness **28/32"** Lower back plate: Material **Steel** Tensile strength **26/30 tons/sq** Thickness **28/32"**

Pitch of stays at wide water space **14.5" x 9.875"** Are stays fitted with nuts or riveted over **Nuts**

Main stays: Material **Steel** Tensile strength **28/32 tons/sq**

Diameter At body of stay, or Over threads **3 1/8"** No. of threads per inch **6**

Screw stays: Material **Steel** Tensile strength **26/30 tons/sq**

Diameter At turned off part, or Over threads **1 7/8"** No. of threads per inch **9**



Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 2" ^{or} 2" ^{Over threads}

No. of threads per inch 9

Tubes: Material Steel External diameter 2 3/4" ^{Plain} 2 3/4" ^{Stay} Thickness 1/4", 5/16", 3/8", 7/16" ^{W.C.} No. of threads per inch 9

Pitch of tubes 3.875 x 3.875 Manhole compensation: Size of opening in shell plate 16" (+20") Section of compensating ring 1.3125" + 20" No. of rivets and diameter of rivet holes 15 - 1.46875

Outer row rivet pitch at ends 10.125 Depth of flange if manhole flanged 2.25" ^{Bottom} 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 Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown

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 None 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

Area of each safety valve Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Pressure to which the safety valves are adjusted Are the safety valves fitted with easing gear

tubes forgings and castings and after assembly in place Hydraulic test pressure:

valves fitted to free the superheater from water where necessary 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 Yes

The foregoing is a correct description,

A.P. Tenby Manufacturer.

Dates of Survey while building ^{During progress of work in shops - -} 1939 Aug. 15, Sept. 5, 6, 8, 12, 15, 20, 26, 28, Oct. 3, 6, 9, 14, 20, 24, Nov. 1, 2, 6, 27, 30, Dec. 4, 6, 8, 11, 12, 14, 16, 20 ^{During erection on board vessel - - -} 1940 Jan. 1, 5, 12, 15, 18, 26, 31, Feb. 9, 19, Mar. 4, 23, 26, Apr. 1, 4, 9, 10, 16, 19, 24, 25, 26, May 25, 28, 29, June 4, 5, 6, 7, 10, 12 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 17.10.39

Total No. of visits 68

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. H.M.S. BIRCH 50672 ^{Plat. Rpt. No.}

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This Boiler has been constructed under Special Survey, in accordance with the approved Admiralty plans & the Rules, & when subjected to a hydraulic test of 350 lbs/sq. in. it was found satisfactory in every respect.

Survey Fee £ : : When applied for, 19

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

D. J. G. [Signature]
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 28 JUN 1940

Committee's Minute

Assigned

See Vol 2. B. 50743

