

REPORT ON BOILERS.

No. 51828.

Received at London Office 10 DEC 1942

Date of writing, Report 26-9-1942, When handed in at Local Office

DEC 1942

Port of HULL.

No. in Survey held at HULL.

Date, First Survey 15.5.42.

Last Survey 9.11.42.

on the H.M.T. "GWEAL"

(Number of Visits)

Gross 452.
Net 142.

Built at BEVERLEY.

By whom built Cook Weller & Gummell Ltd

Yard No. 698 When built 1942

Engines made at HULL

By whom made Chas. D. Holmes Ltd

Engine No. 1623 When made

Boilers made at HULL

By whom made Chas. D. Holmes Ltd

Boiler No. 1612 When made

Original Horse Power 156.

Owners THE ADMIRALTY.

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co and Chilles.

(Letter for Record S.

Total Heating Surface of Boilers 2650 sq. ft.

Is forced draught fitted Ye.

Coal or Oil fired Coal

No. and Description of Boilers One S.B.

Working Pressure 200 lb./sq. in.

Tested by hydraulic pressure to 350 lb./sq. in. Date of test 14/9/42. No. of Certificate 4160. Can each boiler be worked separately

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

Area of each set of valves per boiler 15.4 sq. in. Pressure to which they are adjusted 200 lb./sq. in. Are they fitted with easing gear Ye.

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 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 14'-9 3/8". Length 11'-6".

Shell plates: Material Steel. Tensile strength 29-33 tons/sq. in.

Thickness 1 5/16". Are the shell plates welded or flanged No.

Description of riveting: circ. seams DR. Lap. inter. None.

Long. seams T.R. - O.B.S.

Diameter of rivet holes in circ. seams 1 3/8". long. seams 1 3/8".

Pitch of rivets 4" 9 1/2".

Percentage of strength of circ. end seams plate 65.6%. rivets 44.7%.

Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.5%. rivets 88.5%.

combined 88.8%.

Thickness of butt straps outer 1 1/8". inner 1 1/8".

No. and Description of Furnaces in each Boiler 3 cf. Deighman Section.

Material Steel

Tensile strength 26-30 tons/sq. in.

Smallest outside diameter 3'-6 7/16".

Length of plain part top bottom Thickness of plates crown 1 9/32". bottom 1 9/32".

Description of longitudinal joint Weld

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

End plates in steam space: Material Steel

Tensile strength 26-30 tons/sq. in. Thickness 1 1/32"

Pitch of stays 21x20" max

How are stays secured Nuts inside and out.

Tube plates: Material front Steel back Steel

Tensile strength 26-30 tons/sq. in. 26-30 tons/sq. in.

Thickness 7/8" 25/32"

Mean pitch of stay tubes in nests 9 1/16"

Pitch across wide water spaces 13 5/8"

Girders to combustion chamber tops: Material Steel

Tensile strength 28 3/32" tons/sq. in.

Depth and thickness of girder

at centre 8 1/4" x 1 7/8".

Length as per Rule 2'-7 1/32"

Distance apart 10 3/4"

No. and pitch of stays

in each 2 @ 9 7/8".

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons/sq. in.

Thickness: Sides 25/32"

Back 3/4"

Top 25/32"

Bottom 25/32"

Pitch of stays to ditto: Sides 10 3/4" x 9 7/8". Back 9 1/4" x 9 7/8". Top 10 3/4" x 9 7/8". Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel

Tensile strength 26-30 tons/sq. in.

Thickness 7/8".

Lower back plate: Material Steel

Tensile strength 26-30 tons/sq. in. Thickness 7/8".

Pitch of stays at wide water space 14 1/2" x 9 7/8".

Are stays fitted with nuts or riveted over Nuts.

Main stays: Material Steel

Tensile strength 28-32 tons/sq. in.

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. in.

Diameter At turned off part, or Over threads 1 7/8"

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, 2"
or
Over threads

No. of threads per inch 9.

Tubes: Material Steel External diameter { Plain 2 3/4"
Stay 2 3/4"

Thickness { 8.W.G.
1/4", 5/16", 3/8", 7/16" No. of threads per inch 9.

Pitch of tubes 3 3/8" x 3 3/8"

Manhole compensation: Size of opening

shell plate 16" (x 20") Section of compensating ring 1 5/16" x 20"

No. of rivets and diameter of rivet holes 15 @ 1 5/32"

Outer row rivet pitch at ends 10 1/8" Depth of flange if Bottom manhole flanged 3 1/4"

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

Inner radius of crown

How connected to shell

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

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 Yes

The foregoing is a correct description,
FOR CHARLES D. HOLMES & CO., LTD.

Manufacturer.

Dates of Survey { During progress of work in shops - - 1942 May 18, June 9, Aug 7, 15, 21.
while building { During erection on board vessel - - Sept. 3, 18, 9, 12, 16.
See machinery report.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes

Total No. of visits Yes

Is this Boiler a duplicate of a previous case Yes

If so, state Vessel's name and Report No. H.M.T. BIRCH. Hull Rpt. 50672.

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 and the Rules.

The Workmanship and Materials are good and, when subjected to an hydraulic test of 350 lbs / sq. in. it was found satisfactory in every respect.

This boiler has been installed in H.M.T. GWEAL in accordance with the Rules, examined under steam, safety valves adjusted to 200 lbs and furnaces and combustion chambers examined after trials.

W. Shields

Survey Fee ... £ : : When applied for, 19

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

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See H.M.T. 51828



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