

## REPORT ON BOILERS.

No. 51663.

Received at London Office 10 JUL 1942

Writing Report 4-5-

1942

When handed in at Local Office 8 JUL 1942

Port of HULL.

in Survey held at HULL.

Date First Survey 25. 11. 41.

Last Survey 4. 6. 19 42.

(Number of Visits 51.)

Gross 511.

Tons Net 160.

on the H.M.T. DUNKERY.

By whom built

Cook Welter &amp; Gennell Ltd.

Yard No. 688. When built 1942.

Made at HULL.

By whom made

Chas. D. Holmes Ltd.

Engine No. 1606 When made "

Made at HULL.

By whom made

Chas. D. Holmes Ltd.

Boiler No. 1601. When made "

Horse Power 156.

Owners

THE ADMIRALTY.

Port belonging to

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

Manufacturers of Steel The Steel Company of Scotland Ltd.

(Letter for Record)

20. Heating Surface of Boilers 2358 sq. ft.

Is forced draught fitted Yes.

Coal or Oil fired Coal

Description of Boilers One S.B.

Working Pressure 220 lb./sq. in.

Tested by hydraulic pressure to 380 lb./sq. in. Date of test 22/4/42. No. of Certificate 4141

Can each boiler be worked separately

Area of Firegrate in each Boiler 63 1/4 sq. ft.

No. and Description of safety valves to each boiler 2 Spring loaded

Pressure of each set of valves per boiler { per Rule 15.15 as fitted 16.6.

Pressure to which they are adjusted 220 lb./sq. in. Are they fitted with easing gear Yes.

If of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Least distance between boilers or uptakes and bunkers or woodwork 12".

Is oil fuel carried in the double bottom under boilers

Least distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Least internal dia. of boilers 15'-6".

Length 11'-0".

Shell plates: Material Steel.

Tensile strength 31-35 lb./sq. in.

Thickness 1 1/32".

Are the shell plates welded or flanged No.

Description of riveting: circ. seams { end D.R. cap. inter. }

Seams T.R., D.B.S.

Diameter of rivet holes in { circ. seams 1 1/32" long. seams 1 7/16" }

Pitch of rivets { 3 3/4" 9 3/8" }

Percentage of strength of circ. end seams { plate 62.5% rivets 43-75% }

Percentage of strength of circ. intermediate seam { plate 84.66% rivets 85.73% combined 86.47% }

Percentage of strength of longitudinal joint { plate 84.66% rivets 85.73% combined 86.47% }

Thickness of butt straps { outer 1 3/32" inner 1 3/32" }

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

Material Steel.

Tensile strength 26/30 tons/sq. in.

Smallest outside diameter 3'-9 1/8".

Thickness of plates { crown 1 1/16" bottom 1 1/16" }

Description of longitudinal joint Weld

Stiffening rings on furnace or c.c. bottom None

Plates in steam space: Material Steel

Tensile strength 26/30 tons/sq. in. Thickness 1 3/32".

Pitch of stays 18 1/4" x 18 3/4".

Are stays secured Nuts inside and out.

Plates: Material { front Steel back Steel }

Tensile strength { 26/30 tons/sq. in. 26/30 tons/sq. in. }

Thickness { 1 5/16" 29/32" }

Pitch of stay tubes in nests 9 1/4" x 9".

Pitch across wide water spaces 14 1/2" x 9".

Girders to combustion chamber tops: Material Steel

Tensile strength 29-33 tons/sq. in.

Depth and thickness of girder

Size 9 1/2" x 7 1/8" I-beam

Length as per Rule 2'-9 1/32".

Distance apart 9 1/4".

No. and pitch of stays

h 3 @ 7 1/8".

Combustion chamber plates: Material Steel

Tensile strength 26/30 tons/sq. in.

Thickness: Sides 23/32".

Back 1 1/16".

Top 1 1/16".

Bottom 1 5/16".

Pitch of stays to ditto: Sides 8 1/4" x 9 1/2". Back 8 1/4" x 9". Top 7 1/8" x 9 1/4".

Are stays fitted with nuts or riveted over Nuts.

Plate at bottom: Material Steel

Tensile strength 26-30 tons/sq. in.

Thickness 1 5/16".

Lower back plate: Material Steel

Tensile strength 26-30 tons/sq. in. Thickness 29/32".

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

Are stays fitted with nuts or riveted over Nuts.

Pitch of stays: Material Steel

Tensile strength 28-32 tons/sq. in.

At body of stay, or Over threads 3 1/4".

No. of threads per inch 8.

Stays: Material Steel

Tensile strength 26-30 tons/sq. in.

At turned off part, or Over threads 1 3/4".

No. of threads per inch 10.

Are the stays drilled at the outer ends No.

No. of threads per inch 10.

Margin stays: Diameter { At turned off part, 1 7/8" - 2" - 2 1/8" Over threads

Tubes: Material L/W. Iron External diameter { Plain 3 1/2" Stay 3 1/4"

Thickness { 5/16" 3/8" 7/16" No. of threads per inch 9.

Pitch of tubes 4 1/2" x 4 5/8"

Manhole compensation: Size of opening

shell plate 16" x 12"

Section of compensating ring 34 7/8" x 1 1/32"

No. of rivets and diameter of rivet holes 59 @ 1 1/16"

Outer row rivet pitch at ends 10 3/64"

Depth of flange if manhole flanged 3 3/8"

Steam Dome: Material Steel

Tensile strength 26/30 ton/A

Thickness of shell 3/4"

Description of longitudinal joint S.R. Lap.

Diameter of rivet holes 1 1/32"

Pitch of rivets 2 1/4"

Percentage of strength of joint { Plate 54% Rivets 43.8%

Internal diameter 2'-9"

Thickness of crown 7/8"

No. and diameter

stays 2 @ 2 3/8"

Inner radius of crown Flat

How connected to shell Rivetted

Size of doubling plate under dome 4'-11 1/4" x 1 1/32"

Diameter of rivet holes and

of rivets in outer row in dome connection to shell 1 7/16" dia 4"

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

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

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

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 - - - while building { During erection on board vessel - - -

See machinery report

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

Total No. of visits

Is this Boiler a duplicate of a previous case Yes.

If so, state Vessel's name and Report No. BIRDIP. Hul. Rpt. 51492.

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 Material are good and, when subjected to a hydraulic test of 380 lb./sq. in. it was found satisfactory in every respect.

Survey Fee

Travelling Expenses (if any)

When applied for, 19

When received, 19

Committee's Minute

Assigned

See Hul. Rpt. 51663

Engineer Surveyor to Lloyd's Register of Shipping.



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