

REPORT ON BOILERS.

No. 51812.

Received at London Office 20 NOV 1942

Date of writing Report 12-11-

1942, When handed in at Local Office

19

Port of HULL.

To. in Survey held at HULL.

Date, First Survey 15. 5. 42. Last Survey 8. 10. 1942.

Book.

(Number of Visits 34.) Gross 242.
Tons Net 114

on the STEAM TUG.

EMPIRE TITAN.

Built at HESSLE

By whom built Richard Dunston & Co.

Yard No. 423. When built 1942-

Engines made at HULLROON.

By whom made Ailsa Shipbuilding Co. Ltd Engine No. 185. When made 1942

Boilers made at HULL.

By whom made Chas. D. Holmes & Co. Boiler No. 1603. When made 1942

Nominal Horse Power 177.

Owners Ministry of War Transport

Port belonging to

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record S)

Total Heating Surface of Boilers 2778 sq. ft.

Is forced draught fitted Yes.

Coal or Oil fired Coal

No. and Description of Boilers One S.B.

Working Pressure 210 lbs/sq. in.

Tested by hydraulic pressure to 365 lbs/sq. in. Date of test 14-7-42. No. of Certificate 4154. Can each boiler be worked separately —

Area of Firegrate in each Boiler 64 sq. ft. No. and Description of safety valves to each boiler 2. Spring loaded.

Area of each set of valves per boiler { per Rule 18.6 sq. ft. 15-42
as fitted 19.240 sq. ft. Pressure to which they are adjusted 210 lbs/sq. in. 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 or uptakes and bunkers or woodwork 1'-4 1/2" 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 —

Largest internal dia. of boilers 15'-9 1/4". Length 11'-6". Shell plates: Material Steel Tensile strength 31-35 tons/sq. in.

Thickness 1 3/8". Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. Lap.
inter. —No. of seams T.R. D.B.S. Diameter of rivet holes in { circ. seams 1 13/32"
long. seams 1 13/32" Pitch of rivets { 3 7/8"
9 1/8".Percentage of strength of circ. end seams { plate 63-71%
rivets 43-33% Percentage of strength of circ. intermediate seam { plate —
rivets —Percentage of strength of longitudinal joint { plate 84.6%
rivets 85.5%
combined 86.3%Thickness of butt straps { outer 1 1/16"
inner 1 1/16" No. and Description of Furnaces in each Boiler 3. cf. Deighton Section

Material Steel Tensile strength 26-30 tons/sq. in. Smallest outside diameter 3'-10".

Length of plain part { top —
bottom — Thickness of plates { crown 1 1/16"
bottom — Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.e. bottom None

End plates in steam space: Material Steel Tensile strength 26-30 tons/sq. in. Thickness 1 3/32". Pitch of stays 18 5/8" x 19 1/4"

How are stays secured Nuts & washers inside and out.

End plates: Material { front Steel Tensile strength 26-30 tons/sq. in. Thickness 1 5/16"
back Steel Tensile strength 26-30 tons/sq. in. Thickness 7/8".

Mean pitch of stay tubes in nests 9 13/16". Pitch across wide water spaces 13 1/2" x 8 1/2".

Riveters to combustion chamber tops: Material Steel Tensile strength 29-33 tons/sq. in. Depth and thickness of girder

centre 9 1/4" x 7/8" I-bee Length as per Rule 2'-8 29/32". Distance apart 9 1/2". No. and pitch of stays

each 3 @ 7 1/2"

Tensile strength 26-30 tons/sq. in. Thickness: Sides 23/32". Back 23/32". Top 1 1/16". Bottom 7/8".

Pitch of stays to ditto: Sides 8 1/4" x 9 1/2". Back 8 1/2" x 9 1/2". Top 7 1/2" x 9 1/2". Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel Tensile strength 26-30 tons/sq. in.

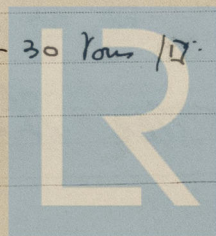
Thickness 1 5/16". Lower back plate: Material Steel Tensile strength 26-30 tons/sq. in. Thickness 7/8".

Pitch of stays at wide water space 13 3/4" x 9 3/8". 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, 3 1/4".
or
Over threads No. of threads per inch 8.

New stays: Material Steel Tensile strength 26-30 tons/sq. in.

Diameter { At turned off part, 1 3/4".
or
Over threads No. of threads per inch 10.

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Are the stays drilled at the outer ends No. Margin stays: Diameter 2 1/8" At turned off part, 2 1/8" or Over threads 2 1/8"

No. of threads per inch 10.

Tubes: Material L. W. Iron External diameter 3" Plain 3" Stay 3" Thickness 5/16", 3/8", 7/16" S. W. G. 8. No. of threads per inch 9.

Pitch of tubes 4 1/4" x 4 1/4" Manhole compensation: Size of opening in shell plate 12" (x 16") Section of compensating ring 12 3/16" x 1 3/8" No. of rivets and diameter of rivet holes 16 @ 1 1/2"

Outer row rivet pitch at ends 9 1/8" Depth of flange if manhole flanged 3 3/8" 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 1942 During progress of work in shops - - May 15, June 4, 18, July 9, 14. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) See machinery report attached

while building During erection on board vessel - - See machinery report attached Total No. of visits 34.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. S. Ing. EMPIRE BIRCH. HUL Rpt. 51472

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

This Boiler has been constructed under special survey in accordance with the approved plans and the Rules.

The Workmanship and Materials are good and when subjected to a hydraulic test of 365 lbs / sq in it was found satisfactory in every respect.

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

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

J. P. H. ...
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 27 NOV. 1942

Assigned

See HUL 76. 51812



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