

REPORT ON BOILERS.

No. 51888.

Received at London Office

6 FEB 1943

Date of writing Report
12-11-42. S.

When handed in at Local Office

4 FEB 1943

Port of HULL.

No. in Survey held at HULL.
Reg. Book.

Date, First Survey

8. 10. 42.

Last Survey

14. 1. 1943.

on the STEAM TUG "EMPIRE OBERON"

(Number of Visits)

18

Tons

Gross 242

Net Nil

Built at HULL

By whom built

Henry Scarf Ltd.

Yard No. 5424

When built 1943

Engines made at Bury

By whom made

Walmesleys (Bury) Ltd.

Engine No. 5959 1/2 When made

Boilers made at HULL

By whom made

Chas. D. Holne & Co.

Boiler No. 1604 When made

Nominal Horse Power

Owners

Ministry of War Transport

Port belonging to

MULTITUBULAR 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 lb./sq. in.

Tested by hydraulic pressure to 365 lb./sq. in. Date of test 30/10/42. No. of Certificate 4167. 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. in. as fitted 19.24 sq. in. Pressure to which they are adjusted 210 lb./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 16 1/2"

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating None

Is the bottom of the boiler insulated No

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.

long. seams T.R. D.B.S.

Diameter of rivet holes in

circ. seams 1 13/32"

Pitch of rivets 3 3/8"

Percentage of strength of circ. end seams { plate 63-71% rivets 43-33%

Percentage of strength of circ. intermediate seam { plate 84-6% rivets 85-5%

Percentage of strength of longitudinal joint { plate 84-6% rivets 85-5%

Percentage of strength of longitudinal joint combined 86-3%

Thickness of butt straps { outer 1 1/16" inner 1 3/16"

No. and Description of Furnaces in each Boiler 3 C.F. Deighton Section

Material Steel

Tensile strength 26-30 tons/sq. in.

Smallest outside diameter 3'-10"

Length of plain part { top 1 1/16" bottom 1 1/16"

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

Description of longitudinal joint Weld

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

Tube plates: Material { front Steel back Steel

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

Thickness { 1 1/16" 7/8"

Mean pitch of stay tubes in nests 9 13/16"

Pitch across wide water spaces 13 1/2" x 8 1/2"

Girders to combustion chamber tops: Material Steel

Tensile strength 29-33 tons/sq. in.

Depth and thickness of girder

at centre 9 1/4" x 7 1/8" double

Length as per Rule 2'-8 29/32"

Distance apart 9 1/2"

No. and pitch of stays

in each 3 @ 7 1/2"

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons/sq. in.

Thickness: Sides 23/32"

Back 23/32"

Top 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.

Screw 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 { At turned off part, ✓
or
Over threads 2" & 2 1/8" ✓
No. of threads per inch 10.
Tubes: Material L/W Iron External diameter { Plain 3" ✓
Stay 3" Thickness { 8.W.G. ✓
7/16", 3/8", 7/16" 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 3/32"
Outer row rivet pitch at ends 9 1/8" Depth of flange if ^{Botta} 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 { During progress of work in shops - - 1942 Oct. 8. 15. 23. 24. 30. Are the approved plans of boiler and superheater forwarded herewith ✓
(If not state date of approval.)
while building { During erection on board vessel - - - 1942 Oct. 2, 5, 31. Nov. 3, 9, 21. Dec. 3, 13.
1943 Jan. 8. 11. 12. 13. 14. Total No. of visits 18.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. S. T. EMPIRE BIRCH, Hull R.M.S. 1472.

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

This Boiler has been constructed under Special Survey in accordance with the Rules and the approved plan.

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

Boiler examined under steam, safety valves adjusted as above and furnaces and combustion chambers afterwards examined on completion of all tests. W.S.S.

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

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

Committee's Minute

TUE 16 FEB 1943

Assigned

See Hul. 26 51888



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Foundation