

REPORT ON BOILERS.

No. 17525.

Received at London Office

E 4 OCT 1943

Date of writing Report 28th Sept. 1943 Which handed in at Local Office 1st Oct. 1943 Port of Middlesbrough

No. in Reg. Book. Stokholm - a - 24. Date, First Survey 28th July 1942 Last Survey 20th Sept. 1943.

on the Steel Single Screw "EMPIRE ANDREW" A/MS 402 (Number of Visits 24) Gross 138 Tons Net h/c

Built at Thorne By whom built Richard Dunston Ltd. Yard No. T386 When built 1944.

Engines made at Ligan By whom made Worsley Messrs Ironworks installed by R. Dunstan Ltd. & Chas. Holmes Engine No. T386 When made -

Boilers made at Stokholm - a - 24. By whom made Stokholm C. Eng. & Riley Bolton Ld. Boiler No. 6619. When made 1943.

Nominal Horse Power - Owners Ministry of War Transport Port belonging to -

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby, Frodingham Steel Co. (Letter for Record S.)

Total Heating Surface of Boilers 1716 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers 1. SE. Marine. Working Pressure 200 lb/sq in

Tested by hydraulic pressure to 350 lb/sq in Date of test 20/9/43. No. of Certificate 7092. Can each boiler be worked separately -

Area of Firegrate in each Boiler 59 sq ft No. and Description of safety valves to each boiler 1. 2 1/2" double safety Valve

Area of each set of valves per boiler per Rule 9.970 Pressure to which they are adjusted 200 lb 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' 0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated No

Largest internal dia. of boilers 13' 0" Length 11' 0" Shell plates: Material Steel Tensile strength 29.33

Thickness 1 5/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams end D.R.

long. seams TR. D.B.S. Diameter of rivet holes in circ. seams 1 1/4" Pitch of rivets 3.4"

Percentage of strength of circ. end seams plate 64.4 rivets 49.9 Percentage of strength of circ. intermediate seam plate 85.29 rivets 76.12

Percentage of strength of longitudinal joint combined 87.36

Thickness of butt straps outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Deighton corrugated.

Material Steel Tensile strength 26.30 Smallest outside diameter 3' 3 3/8"

Length of plain part top 9 1/16" bottom 9 1/16" Description of longitudinal joint welded.

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

End plates in steam space: Material Steel Tensile strength 26.30 Thickness 1 1/16" Pitch of stays 18" x 17"

How are stays secured D. nuts & washers

Tube plates: Material Steel Tensile strength 26.30 Thickness 29/32" 3/4"

Mean pitch of stay tubes in nests 10.094" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material Steel Tensile strength 28.32 Depth and thickness of girder -

at centre 8 1/2" x 7 1/4" Length as per Rule 2' 4 1/2" Distance apart 8 1/2" x 10 3/4" No. and pitch of stays -

in each 2-9" Combustion chamber plates: Material Steel

Tensile strength 26.30. Thickness: Sides long 1 1/16" Back 2 1/32" Top centre 3/16" Bottom long 1 1/16"

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

Front plate at bottom: Material Steel Tensile strength 26.30.

Thickness 29/32" Lower back plate: Material Steel Tensile strength 26.30 Thickness 13/16"

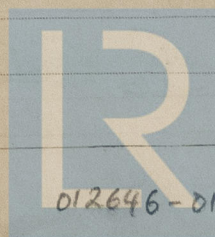
Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over h/c.

Main stays: Material Steel Tensile strength 28.32

Diameter At body of stay, 2 7/8" No. of threads per inch 6

Screw stays: Material Steel Tensile strength -

Diameter At turned off part, 1 7/8" - 1 3/4" - 1 5/8" No. of threads per inch 9.



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Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, or Over threads 1 3/4"

No. of threads per inch 9

Tubes: Material Weldless Steel External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 8 L.S.F. 7/16" + 5/16" No. of threads per inch 9

Pitch of tubes 4 3/8" x 4 3/8" Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 8 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 36 - 1 1/4"

Outer row rivet pitch at ends 8 1/2" Depth of flange if manhole flanged / Steam Dome: Material Steel

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 / 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

STOKES ENGINEERS & BOILER MAKERS LTD.
The foregoing is a correct description,
Manufacturer.

Dates of Survey { During progress of work in shops - 1942 July 28, Aug. 14, Sept. 10, 23, Nov. 4, 18, Dec. 4, 21, 1943 Jan. 11, 20, Feb. 8, 24, March 11, 29, April 14, 30, May 12, June 4, July 19, 26, 30, Aug. 13, Sept. 3, 20. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes.

while building { During erection on board vessel - - - } Total No. of visits 24.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Imadishongh Ppl: No. 17491.

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

This boiler has been built under Special Survey & is accordance with the Rule Requirements & approved plan.

The materials & workmanship are good & on completion the boiler was hydraulically tested to 350 lb psi & found satisfactory.

This boiler has been dispatched to Hull for installation on Richard Dismeth's Tug. 386

The above boiler installed in 'EMPIRE ANDREW' at Hull by Chas D Holmes under Special Survey, examined under steam, safety valves adjusted, accumulation test held and afterwards examined after all tests and found satisfactory in every respect

W S Shields, Hull.

Survey Fee ... £ 11 : 8 : 6. When applied for, 1/10/ 1943.

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

1716
15 = 1141P

Chas D Holmes
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 3. MAR 1944

Assigned See Hull for P. machy
ref. 52333