

Rpt. 5a.
D.O.

REPORT ON BOILERS.

Shd No. 3+524
Mat No. 17982

Received at London Office 4 FEB 1946

Date of writing Report 31:1:1046 Port of Middlesbrough

No. in Survey held at 19 When handed in at Local Office 31:1:1046

No. in Reg. Book. 1046 Date, First Survey 13th July 1945 Last Survey 1st Jan 1946

on the "BRITISH PRINCESS" (Number of Visits 18) Gross 8582 Tons Net 4918

Built at Sunderland By whom built Sir James Clark & Co. Yard No. 468 When built 1946

Engines made at Sunderland By whom made Wm Kayford & Sons L^{td} Engine No. 252 When made 1946

Boilers made at Stephen. or. Jcs. By whom made Stephen P.E. & Riley Boilers L^{td} Boiler No. 6925 When made 1946

Nominal Horse Power new scale RAC Owners British Tankers Co L^{td} Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. L^{td} (Letter for Record 5)

Total Heating Surface of Boilers 2020 sq ft Is forced draught fitted Yes Enforced for Oil fired Yes

No. and Description of Boilers 1 SE Marine Working Pressure 150 lb/sq

Tested by hydraulic pressure to 275 lb. Date of test 11/1/46. No. of Certificate 7163 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two into high lift

Area of each set of valves per boiler per Rule as fitted 14.1 sq Pressure to which they are adjusted 150 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 - 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 Yes

Largest internal dia. of boilers 12'-10 3/16" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33 DR. Lap.

Thickness 29/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end 3'-18 7/8" inter. -}

Long. seams TR. D.B.S. Diameter of rivet holes in {circ. seams 1 1/16" long. seams 1 1/16" Pitch of rivets {plate 7 1/16" rivets -}

Percentage of strength of circ. end seams {plate 66.6% rivets 48.7} Percentage of strength of circ. intermediate seam {plate - rivets -}

Percentage of strength of longitudinal joint {plate 84.9% rivets 103 combined -}

Thickness of butt straps {outer 23/32" inner 27/32" No. and Description of Furnaces in each Boiler 2. Duplex (very old)

Material Steel Tensile strength 26.30 Smallest outside diameter 3'-10"

Length of plain part {top bottom} Thickness of plates {crown 1/2" bottom 1/2" Description of longitudinal joint welded.

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

End plates in steam space: Material Steel Tensile strength 26.30 Thickness 1" Pitch of stays 18"x17"

How are stays secured Double nuts & washers, secured into both plates

Tube plates: Material {front back} Steel Tensile strength {26.30 Thickness {7/8" 3/4"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2"

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

at centre 7" - 2 @ 5/8" Length as per Rule 2'-3 1/2" Distance apart 9" No. and pitch of stays

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

Tensile strength 26.30 Thickness: Sides 2 1/32" Back 1 9/32" Top 2 1/32" Bottom 2 1/32"

Pitch of stays to ditto: Sides 10"x9" Back 9 1/2" + 8 1/4" Top 9"x9" Are stays fitted with nuts or riveted over nuts

Front plate at bottom: Material Steel Tensile strength 26.30

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26.30 Thickness 3/4"

Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

Main stays: Material Steel Tensile strength 28.32

Diameter {At body of stay, or Over threads} 2 3/4" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26.30

Diameter {At turned off part, or Over threads} 1 1/2" 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) 1 3/4" or ^{Over threads} 1 3/4"

No. of threads per inch 9.

Tubes: Material Stainless Steel External diameter ^{Plain} 2 1/2" ^{Stay} 2 1/2" Thickness ^{10 SW.G.} 9/16" No. of threads per inch 9.

Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening 52 - 1 1/16"

shell plate 21" x 17" Section of compensating ring 8 1/4" x 1 1/8" No. of rivets and diameter of rivet holes 52 - 1 1/16"

Outer row rivet pitch at ends 7 1/16" Depth of flange if manhole flanged - 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 _____ 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 of 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 _____

The foregoing is a correct description,
A. Gortley Manufacturer

Dates of Survey ^(During progress of work in shops - -) 1945 July: 13-26 Aug: 3-14-29 Sep: 7-13 Are the approved plans of boiler and superheater forwarded herewith 9/2/45.
^(If not state date of approval.) Oct: 9-19-31 Nov: 14-23-29 Dec: 5-14-20-28

^(During erection on board vessel - - -) 1946 Jan: 11. Total No. of visits 18

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. his dno report No. 17949.

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

This boiler has been constructed under Special Survey, & in accordance with the Rule Requirements & approved plan.

The materials & workmanship are good, & on completion the boiler was hydraulically tested to 275 lbs psi & found satisfactory.

This boiler is being forwarded to Sunderland for Wm. Douglas's Contract No. 735.

This boiler has been securely fixed on board the vessel & the safety valves adjusted to working pressure as above

In recommendation please see Machinery Rpt. No. 34524.

Survey Fee £ 20 : 5 : When applied for, 1 : 2 : 1946

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

L. Norman Stuart
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 13 SEP 1946

Assigned for minute see Sl. F. E. Kelly Rpt. 34524

