

Rpt. 5a.

REPORT ON BOILERS.

No. 80522

Received at London Office

20 JUL 1926

Date of writing Report 12th July 1926 When handed in at Local Office 15th July 1926 Port of Newcastle-on-TyneNo. in Survey held at Jarrow Date, First Survey 23rd Oct. 1925 Last Survey 7th July 1926

Sup. 36250 on the S.S. "BRITISH INVENTOR" (Number of Visits —) Gross 7200 Tons Net 4300

Master Built at Jarrow By whom built Palmers S. & J. Co. Ltd. Yard No. 959 When built 1926

Engines made at Jarrow By whom made Palmers S. & J. Co. Ltd. Engine No. 959 When made 1926

Boilers made at " By whom made Palmers S. & J. Co. Ltd. Boiler No. 959 When made 1926

Nominal Horse Power 567 Owners British Tanker Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel STEEL COMPANY OF SCOTLAND LTD. (Letter for Record 3)

Total Heating Surface of Boilers 1093 sq ft Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers ONE, S.E. MULTITUBULAR Working Pressure 120 LBS.

Tested by hydraulic pressure to 230 LBS. Date of test 17-5-26 No. of Certificate 102 Can each boiler be worked separately YES

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler TWO SPRING LOADED

Area of each set of valves per boiler {per Rule 12.43 sq in as fitted 14.136 sq in Pressure to which they are adjusted 120 LBS Are they fitted with easing gear YES

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork 1.6" 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 10' 6" Length 10' 6" Shell plates: Material STEEL Tensile strength 28-32 TONS

Thickness 21/32 Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. inter. -

long. seams T.R. D.B.S. Diameter of rivet holes in {circ. seams 1" long. seams 7/8" Pitch of rivets {3 1/4" 4 5/8"

Percentage of strength of circ. end seams {plate 69.2% rivets 55.1% Percentage of strength of circ. intermediate seam {plate - rivets -

Percentage of strength of longitudinal joint {plate 81.9% rivets 91.6% combined 92.75% Working pressure of shell by Rules 124 LBS. 2 CF

Thickness of butt straps {outer 7/16 inner 9/16 No. and Description of Furnaces in each Boiler TWO DEIGHTON

Material STEEL Tensile strength 26-32 TONS Smallest outside diameter 2' 10"

Length of plain part {top 10 1/2" bottom 10 1/2" Thickness of plates {crown 3/8" bottom 3/8" Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 155 LBS.

End plates in steam space: Material STEEL Tensile strength 26-30 TONS Thickness 1 1/2" Pitch of stays 19" x 23.5"

How are stays secured DOUBLE NUTS AND WASHERS Working pressure by Rules 120 LBS.

Tube plates: Material {front STEEL back STEEL Tensile strength {26-30 TONS Thickness {25/32 23/32

Mean pitch of stay tubes in nests 10.625" Pitch across wide water spaces 14 1/2" Working pressure {front 195 LBS. back 164 LBS.

Girders to combustion chamber tops: Material STEEL Tensile strength 28-32 TONS Depth and thickness of girder

at centre 6" x 1" Length as per Rule 2' 1 25/32" Distance apart 8 1/2" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 124 LBS. Combustion chamber plates: Material STEEL

Tensile strength 26-30 TONS Thickness: Sides 19/32 Back 3/4 Top 19/32 Bottom 19/32

Pitch of stays to ditto: Sides 10" x 10" Back 11" x 9 1/2" Top 10" x 8 1/2" Are stays fitted with nuts or riveted over NUTS

Working pressure by Rules 121.5 LBS. Front plate at bottom: Material STEEL Tensile strength 26-30 TONS

Thickness 25/32 Lower back plate: Material STEEL Tensile strength 26-30 TONS Thickness 3/4

Pitch of stays at wide water space 14.25" x 11" Are stays fitted with nuts or riveted over NUTS AND WASHERS

Working Pressure 139 LBS. Main stays: Material STEEL Tensile strength 28-32 TONS

Diameter {At body of stay, or Over threads 2 3/4 No. of threads per inch 6 Area supported by each stay 446.5 sq in

Working pressure by Rules 123.5 LBS. Screw stays: Material IRON Tensile strength 23 TONS

Diameter {At turned off part, or Over threads 1 1/2 1 1/2 No. of threads per inch 9 Area supported by each stay 100 sq in

Working pressure by Rules 125.5 LBS. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part. 1 7/8" AND 3/4" or Over threads 1 7/8" AND 3/4"
No. of threads per inch 9 Area supported by each stay 120" Working pressure by Rules 146 LBS.
Tubes: Material IRON External diameter { Plain 3" Stay 3" Thickness { 10 W.G. No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 140 LBS. Manhole compensation: Size of opening
shell plate 20" x 16" Section of compensating ring 2.8 1/2" x 2.6" x 1 1/4" No. of rivets and diameter of rivet holes 36 @ 1"
Outer row rivet pitch at ends 5 1/2" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material -
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 - Working pressure by Rules - Thickness of crown - No. and diameter
stays - Inner radius of crown - Working pressure by Rules -
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 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 or
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 - Working pressure as
Rules - Pressure to which the safety valves are adjusted - Hydraulic test pressure -
tubes - 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 23 inclusive for boilers been complied with YES

The foregoing is a correct description of the boiler and superheater.
Thomas Napier & Co. Ltd. Manufacturer
W. Brown Manager, Engine Dept.

Dates of Survey { During progress of work in shops - - -
while building { During erection on board vessel - - -

See Mach. Report

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

Total No. of visits -

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

This boiler was built under Special Survey, the materials and workmanship are good.

Survey Fee ... See Mach. Report

When applied for. 192

Travelling Expenses (if any) £

When received. 192

Thomas Napier

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 23 JUL 1925

Assigned

See A. E. rpt. attached



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