

REPORT ON BOILERS.

No. 40485

Received at London Office OCT 23 1940

Report of writing Report Sept 20th 1940 When handed in at Local Office Sept 24th 1940 Port of New York

To. in Survey held at Brooklyn, N.Y. Date, First Survey May 9th Last Survey July 24th 1940

720 on the Steel Liner to NY "BROOKLYN HEIGHTS" (Number of Visits 3) Gross 1030 Tons Net 569

ster Built at Stockholm By whom built Svea Yacht Co. Ward No. When built 1917

ines made at Stockholm By whom made Atlas Co. Engine No. When made 1926

er made at Soderham, Sweden By whom made (previously classed B.V.) Boiler No. 422 When made 1917

inal Horse Power Owners Hull American Mfg. Ship Co. Port belonging to New York

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.

Manufacturers of Steel assumed minimum tensile stress for calculating purposes. (Letter for Record)

Heating Surface of Boilers 530 sq ft Is forced draught fitted No Coal or Oil fired oil fired

Description of Boilers one multitubular wet bottomed boiler, Scotch type Working Pressure 120 lbs

Tested by hydraulic pressure to 185 lbs Date of test 14/6/40 No. of Certificate Can each boiler be worked separately

Area of Firegrate in each Boiler oil fired No. and Description of safety valves to each boiler 2 spring loaded valves cased in

Pressure of each set of valves per boiler 8.1 (per Rule) 9.8 (as fitted) 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 main boilers

Least distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers Yes

Least distance between shell of boiler and tank top plating 2 ft Is the bottom of the boiler insulated Yes

Least internal dia. of boilers 7 ft 6 ins Length 8 ft Shell plates: Material Steel Tensile strength 28

Thickness 5/8" Are the shell plates welded or flanged no Description of riveting: circ. seams end double zig-zag

Seams double straps double zig-zag riveted Diameter of rivet holes in circ. seams 3/4" long. seams 3/4" Pitch of rivets 2 3/4" 3 3/4"

Percentage of strength of circ. end seams plate 72.4 rivets 53.6 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 80.0 rivets 62.8 combined 88.2 Working pressure of shell by Rules 127 lbs

Thickness of butt straps outer 2" inner 1 1/2" No. and Description of Furnaces in each Boiler one Morrison

Material Steel Tensile strength 26 Smallest outside diameter 35 1/2"

Thickness of plates top 1/16" bottom 1/16" Description of longitudinal joint

Positions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 145 lbs

Plates in steam space: Material Steel Tensile strength 26 Thickness 3/4" Pitch of stays 15 1/4" & 13 3/4"

Are stays secured nuts & washers both sides Working pressure by Rules 165 lbs

Plates: Material front Steel back 4" Tensile strength 26 26 Thickness 3/4" 3/4"

Pitch of stay tubes in nests 15" Pitch across wide water spaces 13" Working pressure front 114 lbs back 114 lbs

Plates to combustion chamber tops: Material Steel Tensile strength 28 Depth and thickness of girder 5 1/2" x 5/8" x 2

Length as per Rule 19 1/2" Distance apart 4 1/2" No. and pitch of stays one

Working pressure by Rules 165 lbs Combustion chamber plates: Material Steel

Tensile strength 26 Thickness: Sides 5/8" Back 9/16" Top 5/8" Bottom 5/8"

Stays to ditto: Sides 7 3/8" Back 7" Top 9 3/4" Are stays fitted with nuts or riveted over Riveted

Working pressure by Rules 169 Front plate at bottom: Material Steel Tensile strength 26

Thickness 3/4" Lower back plate: Material Steel Tensile strength 26 Thickness 3/4"

Are stays at wide water space Are stays fitted with nuts or riveted over

Working Pressure 120 lbs Main stays: Material Steel Tensile strength 28

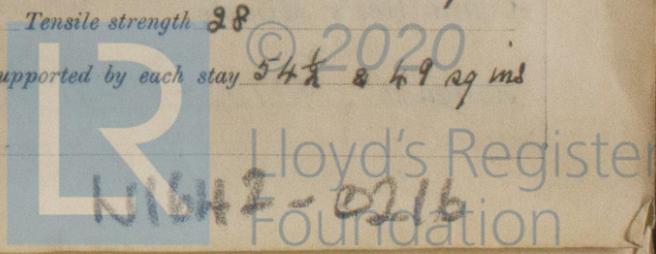
At body of stay, 2 3/8" No. of threads per inch Area supported by each stay 260 & 200 sq ins

Over threads

Working pressure by Rules 120 lbs Screw stays: Material Steel Tensile strength 28

At turned off part, 1 3/8" No. of threads per inch Area supported by each stay 54 & 49 sq ins

Over threads



Working pressure by Rules 185 lb Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part.} 1 3/8" or ^{Over threads} 1 3/8"

No. of threads per inch ✓ Area supported by each stay 54 sq ins Working pressure by Rules 185 lb

Tubes: Material Steel External diameter ^{Plain} 3 1/4" Thickness [✓] 5/16" No. of threads per inch 9

Pitch of tubes 4 1/4" Working pressure by Rules 180 lb Manhole compensation: Size of opening in shell plate 11 3/4 x 15 3/4 Section of compensating ring 5" x 3/4" No. of rivets and diameter of rivet holes 2 - 3/4"

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓ 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 of stays ✓

How connected to shell ✓ 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 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 ✓ Working pressure as per Rules ✓ 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 ✓

The foregoing is a correct description,
E. S. Whitham Manufacturer

Dates of Survey ^{During progress of work in shops - - -} ✓ Are the approved plans of boiler and superheater forwarded herewith ✓ (If not state date of approval.)

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

Is this Boiler a duplicate of a previous case ✓ If so, state Vessel's name and Report No. ✓

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

The boiler dimensions checked and found to be in accordance with the plan attached. The boiler examined internally and externally and found in good condition and at this time the stay tubes were replaced in the marginal rows as apparently the boiler had previously been retubed and the stay tubes omitted. All plain tubes are beaded over at both ends. All mountings overhauled, minor repairs effected and all placed in order. The boiler was tested by hydrostatic pressure re-examined and found in order. The boiler examined under steam, the safety valves adjusted for a working pressure of 120 lbs per sq inch and an accumulation test held and all found in order. The oil fuel burning installation with all master valves examined under working conditions and all found in order.

The boiler is eligible to be classed, in my opinion, and to have a record of DBS. 7,40.

Survey Fee £ : ✓ : When applied for, 26-9 1940

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

E. S. Whitham
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK SEP 25 1940

Assigned D.B. - 120 lb



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