

REPORT ON BOILERS.

No. 40485

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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*
 Book. *726* On the *Steel Liner to N.Y. "BROOKLYN HEIGHTS"* (Number of Visits *3*) Gross *1030* Tons Net *569*
 Built at *Stockholm* By whom built *Solna Yagil & Co* Yard No. When built *1917*
 Lines made at *Stockholm* By whom made *Atlas Co.* Engine No. When made *1926*
 Made at *Boederham, Sweden* By whom made *(previously classed B.V.)* Boiler No. *422* When made *1917*
 Original Horse Power Owners *Holland American N.Y. 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*
 and 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 ☒
 of Firegrate in each Boiler *oil fired* No. and Description of safety valves to each boiler *2 spring loaded valves cased in*
 of each set of valves per boiler { per Rule *8.1* as fitted *9.8* Pressure to which they are adjusted *120 lbs* Are they fitted with easing gear *Yes*
 Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler *no main boilers*
 Test distance between boilers or uptakes and bunkers or woodwork ☒ Is oil fuel carried in the double bottom under boilers *Yes*
 Test distance between shell of boiler and tank top plating *2 ft* Is the bottom of the boiler insulated *Yes*
 Test 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 *88.9* 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 { crown *7/16"* bottom *7/16"* 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 *"* 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*
 Distance to combustion chamber tops: Material *Steel* Tensile strength *28* Depth and thickness of girder
5 1/2" x 7/8" x 2 Length as per Rule *19 1/2"* Distance apart *7 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"*
 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" Working pressure by Rules 185 lb

No. of threads per inch 9 Area supported by each stay 54 sq ins Thickness 5/16" No. of threads per inch 9

Tubes: Material Steel External diameter { Plain 3 1/4" Stay 3 1/4" 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 6" x 3/4" No. of rivets and diameter of rivet holes 2 - 3/4"

Outer row rivet pitch at ends 4 1/4" Depth of flange if manhole flanged 4 1/4" Steam Dome: Material Steel

Tensile strength 40000 Thickness of shell 1/2" Description of longitudinal joint Plate Rivets

Diameter of rivet holes 1/2" Pitch of rivets 4 1/4" Percentage of strength of joint Plate Rivets

Internal diameter 48" Working pressure by Rules 180 lb Thickness of crown 1/2" No. and diameter of stays 4 1/4"

How connected to shell Size of doubling plate under dome 4 1/4" Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 4 1/4"

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

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 180 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