

REPORT ON BOILERS.

No. 19403

1 JUL 1930

Received at London Office

Date of writing Report 18th June 1930 When handed in at Local Office

Port of Hamburg

No. in Reg. Book. 89415 Survey held at Harburg & Odense

Date, First Survey 10th April 1930

Last Survey 14th June 1930

(Number of Visits 7) Gross 6184.41

Tons Net 5505.04

Master - Built at Odense

By whom built Odense Staalskibevoerft

Yard No. 41 When built 1930

Engines made at Lorenzen

By whom made 2/3 Bismarck & Wain

Engine No. 1830 When made 1930

Boilers made at Harburg

By whom made Christiansen & Meyer

Boiler No. 4915/4916 When made 1930

Nominal Horse Power 490

Owners 2/3 Sverdrup & 1/3 af 1912 Port belonging to Sybing

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Plates = Mannesmannröhren Werke AG, Schulz, Finandt, Flöckingen
Stays = Röhrenwerke AG, St. Georgs, Marien Werke, Georgsmarienhütte
Rivets = Entschiffnungshütte St. Georgs, L. Möhling, Schwerte i/W.

(Letter for Record S.)

Total Heating Surface of Boilers 2, each 1205.6 sq. ft. = 2411.2 sq. ft. Is forced draught fitted no yes Coal or Oil fired Oil fired

No. and Description of Boilers 2 single ended multitubular Working Pressure 150 lbs.

Tested by hydraulic pressure to 275 lbs. Date of test 14th June 1930 No. of Certificate 504/505 Can each boiler be worked separately yes

Area of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler 1 - 2 spring loaded

Area of each set of valves per boiler per Rule 11.25 sq. inch Pressure to which they are adjusted 150 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

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

Smallest distance between shell of boiler and tank top plating Boilers plant on a platform Is the bottom of the boiler insulated no

Largest internal dia. of boilers 131.89" Length 122.83" Shell plates: Material S.M. Steel Tensile strength 28-32 tons

Thickness 0.79" Are the shell plates welded or flanged flanged Description of riveting: circ. seams end double

long. seams double butt. treble riv. Diameter of rivet holes in circ. seams 1.14" Pitch of rivets 3.56"

Percentage of strength of circ. end seams plate 67.9 rivets 59.6 Percentage of strength of circ. intermediate seam plate rivets ✓

Percentage of strength of longitudinal joint plate 83.9 rivets 126.1 combined 93 Working pressure of shell by Rules 150 lbs.

Thickness of butt straps outer 0.79" inner 0.79" No. and Description of Furnaces in each Boiler 2 Morrison

Material S.M. Steel Tensile strength 22.2-26.0 tons Smallest outside diameter 36.38"

Length of plain part top 12.59" bottom 12.59" Thickness of plates crowns 0.47" bottom 0.47" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 183.5 lbs.

End plates in steam space: Material S.M. Steel Tensile strength 22.2-26 tons Thickness front 0.98" Pitch of stays 17.72"

How are stays secured double nuts, riveted washers & strips Working pressure by Rules 221.78 lbs.

Tube plates: Material front S.M. Steel back S.M. Steel Tensile strength 22.2-26 tons Thickness 0.98" 0.79"

Mean pitch of stay tubes in nests 12.4" Pitch across wide water spaces 14.37" Working pressure front 331.2 lbs. back 208.5 lbs.

Girders to combustion chamber tops: Material S.M. Steel Tensile strength 22.2-26 tons Depth and thickness of girder

at centre 6.3" x 0.71" Length as per Rule 20.6" Distance apart 8.66" No. and pitch of stays

in each 1 = 10.3" Working pressure by Rules 191.5 lbs. Combustion chamber plates: Material S.M. Steel

Tensile strength 22.2-26 tons Thickness: Sides 0.63" Back 0.67" Top 0.63" Bottom 0.63"

Pitch of stays to ditto: Sides 6.49" Back 7.48" Top 7.48" Are stays fitted with nuts or riveted over nuts & riveted over

Working pressure by Rules 196.5 lbs. Front plate at bottom: Material S.M. Steel Tensile strength 22.2-26 tons

Thickness 0.98" Lower back plate: Material S.M. Steel Tensile strength 22.2-26 tons Thickness 0.88"

Pitch of stays at wide water space 18.89" Are stays fitted with nuts or riveted over fitted with nuts

Working Pressure 392.32 lbs. Main stays: Material S.M. Steel Tensile strength 28-32 tons

Diameter At body of stay, 2.75" or Over threads, E 3 3/4", dia 2.99" No. of threads per inch 6 Area supported by each stay 17.72" x 14.17"

Working pressure by Rules 238.1 lbs. Screw stays: Material S.M. Steel Tensile strength 26-30 tons

Diameter At turned off part, 1.38" or Over threads, 1.54" No. of threads per inch 9 Area supported by each stay 7.48" x 7.09"



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Working pressure by Rules 252-030 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part 1.38" / Over threads 1.54"

No. of threads per inch 9 Area supported by each stay 7.87" x 6.49" Working pressure by Rules 261.7 lbs

Tubes: Material L.M. Steel External diameter { Plain 2.99" / Stay 2.99" Thickness { 0.15" / 0.31/0.27" No. of threads per inch 9

Pitch of tubes 4.21" Working pressure by Rules 250 lbs Manhole compensation: Size of opening in shell plate 12.59" = 16.73" Section of compensating ring 35.4" x 10.84" x 0.79" No. of rivets and diameter of rivet holes 36 = 1.02"

Outer row rivet pitch at ends 5.9" Depth of flange of manhole flange = 3.54" 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 _____ 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 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 _____ 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

Harbiny. May 5. Dec 27. June 1930. The foregoing is a correct description, ppa. Christianson & Meyer Fluys Manufacturer.

Dates of Survey { During progress of work in shops - - 1/15-14/5-20/5-29/5-4/6-11/6-14/6.30 Are the approved plans of boiler and superheater forwarded herewith 26.2.30 (If not state date of approval.)

while building { During erection on board vessel - - - 14/8-25/8-14/9-19/9-19/9-26/9-30/9-30 Total No. of visits 7 + 7 = 14

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Boilers have been built under Special-Survey in accordance with the approved plan, the Secretary's letter E-26.2.30 and E-12.5.1930 and otherwise in conformity with the requirements of the Rules. The material, used in the construction, is made at Works recognised by the Committee and tested in conformity with the requirements of the Rules. Material and workmanship are of good quality. The Boilers were found to be tight and sound when tested by hydraulic pressure to 275 lbs. The examination under steam has not been carried out. These two Boilers are eligible in my opinion for record of "B.S. with date" subject to the examination being carried out under steam and safety valves being adjusted to the required pressure.

These boilers have been fitted on board the vessel and connected complete under our supervision and to our satisfaction. An oil burning unit (J. Lancia White & Co. Ltd) and 2 feed pumps (J.P. Macintosh Ltd), 7 1/2" x 5 1/2" x 12" simple, are connected with the boilers, and the whole installation has been fitted and tested as required by the Rules.

Recommends the vessel's machinery to have notation of 2 D.B. 150 lb. in the Register Book.

Survey Fee ... £ 16 : 2 : - When applied for, 21. 6. 1930

Travelling Expenses (if any) £ 1 : 10 : - When received, 31. 7. 1930

W. J. ... Clayton
 Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 21 OCT 1930

Assigned See F.E. Rpt

