

REPORT ON BOILERS.

No. 21698.

Received at London Office

of writing Report 4th June 49 When handed in at Local Office 8th June 49 Port of Malmö

Survey held at Malmö Date, First Survey 28th April Last Survey 23rd May 49

on the Tug "Harald" (Number of Visits 5) Gross 188 Tons Net 48

Built at Motala By whom built Motala Verk. Nya A. B. Yard No. 464 When built 1916

Lines made at Motala By whom made Motala Verk. Nya A. B. Engine No. 781 When made 1916

Port made at Motala By whom made Motala Verk. Nya A. B. Boiler No. 650 When made 1916

Final Horse Power 88 Owners Göteborgs Bågsörings- & Bågsörings A. B. Port belonging to Göteborg

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Uddeholm (Letter for Record 29.4.49)

Heating Surface of Boilers 142.59 m² 140.29 Is forced draught fitted No Coal or Oil fired Coal

Description of Boilers One single end Scotch boiler Working Pressure 11.25 kg. cm²

Tested by hydraulic pressure to 21.5 kg. cm² Date of test when built No. of Certificate to W.P. norm Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 5 m² No. and Description of safety valves to each boiler 2 spring loaded

Pressure to which they are adjusted 11.25 kg. cm² Are they fitted with easing gear Yes

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes

Least distance between boilers or uptakes and bunkers or woodwork 180 mm Is oil fuel carried in the double bottom under boilers Yes

Least distance between shell of boiler and tank top plating No double bottom Is the bottom of the boiler insulated Yes

Least internal dia. of boilers 3850 mm Length 3200 mm Shell plates: Material Yes Tensile strength 44-50 kg. mm²

Thickness 24 mm Are the shell plates welded or flanged No Description of riveting: circ. seams 2.10 mm end 2.10 mm zigzag 2.10 mm

seams Old butt straps 3 rows zigzag Diameter of rivet holes in circ. seams 2.10 mm inter 80 mm Pitch of rivets 158 mm 22/7/49

Percentage of strength of circ. end seams plate 67.6 rivets 45 Percentage of strength of circ. intermediate seam plate 83.6 rivets 95

Percentage of strength of longitudinal joint plate 83.6 rivets 95 combined 86 Working pressure of shell by Rules 11.2 kg. cm²

Thickness of butt straps outer 2.2 mm inner 2.0 mm No. and Description of Furnaces in each Boiler 3, corrugated

Material Yes Tensile strength 41-46 kg. mm² Smallest outside diameter 974 mm

Thickness of plain part top 160 mm bottom 270 mm Thickness of plates crown 12 bottom 12 Description of longitudinal joint None

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 11.5 kg. cm²

plates in steam space: Material Yes Tensile strength 40-45 kg. mm² Thickness 23.5 mm Pitch of stays 440 x 395 mm

Are stays secured Turned in plate, nuts inside, doublings & nuts outside Working pressure by Rules 11.6 kg. mm²

plates: Material front 40-45 Tensile strength 38-43 Thickness 2.3 mm 19 mm

Pitch of stay tubes in nests 274 mm Pitch across wide water spaces 350 x 236 mm Working pressure front 10.35 kg. cm² back 12.1

Stays to combustion chamber tops: Material Yes Tensile strength Yes Depth and thickness of girder Yes

Length as per Rule 300 mm Distance apart 200 mm No. and pitch of stays Yes

Working pressure by Rules 11.6 kg. cm² Combustion chamber plates: Material Yes

Strength 38-43 kg. cm² Thickness: Sides 15.5 mm Back 15 mm Top 15.5 mm Bottom 16 mm

of stays to ditto: Sides 215 x 210 mm Back 150 x 200 mm Top 215 x 200 mm Are stays fitted with nuts or riveted over Side stays & Margin stays with nuts, remaining riveted over

Working pressure by Rules 11.6 kg. cm² Front plate at bottom: Material Yes Tensile strength 40-45 kg. mm²

Thickness 2.3 mm Lower back plate: Material Yes Tensile strength 40-45 kg. mm² Thickness 17.5 mm

of stays at wide water space 350 x 150 mm Are stays fitted with nuts or riveted over Margin stays with nuts, remaining riveted over

Working pressure 11.9 kg. cm² Main stays: Material Yes Tensile strength 40-45 kg. mm²

At body of stay 64 mm No. of threads per inch Yes Area supported by each stay 440 x 395 mm

Over threads 2 3/4" Screw stays: Material Yes Tensile strength 40-45 kg. mm²

Working pressure by Rules 11.5 kg. cm² No. of threads per inch Yes Area supported by each stay 200 x 150 mm

At turned off part 1 3/8" at sides 1 7/8"

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Working pressure by Rules 13.4 kg. cm^2 Are the stays drilled at the outer ends ☒ Margin stays: Diameter $1.58"$ At turned off part or Over threads 11.5 kg. cm^2

No. of threads per inch ☒ Area supported by each stay $350 \times 150 \text{ mm}$ Working pressure by Rules 4 mm 81 W.G. No. of threads per inch ☒

Tubes: Material ☒ External diameter 89 mm Thickness $5.5 \times 7.5 \text{ mm}$ 5+1.1 W.G. Manhole compensation: Size of opening in shell plate $118 \times 119 \text{ mm}$ Working pressure by Rules $2.24 \times (175 + 70)$ No. of rivets and diameter of rivet holes $48 \text{ } 2-23 \text{ mm}$

Pitch of tubes $370 \times 470 \text{ mm}$ Section of compensating ring 90 mm Depth of flange if manhole flanged 70 mm Steam Dome: Material ☒

Outer row rivet pitch at ends ☒ Thickness of shell Description of longitudinal joint

Tensile strength Pitch of rivets Percentage of strength of joint Plate Rivets

Diameter of rivet holes Thickness of crown No. and diameter of stays

Internal diameter Working pressure by Rules Working pressure by Rules

How connected to shell Inner radius of crown Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell Size of doubling plate under dome

Type of Superheater ☒

Manufacturers of Tubes Steel forgings Steel castings Internal diameter and thickness of tubes

Number of elements Material of tubes Tensile strength Thickness Can the superheater be shut off at 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 forgings and castings and after assembly in place Are drain cocks 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, Manufacture

Dates of Survey while building During progress of work in shops - - - During erection on board vessel - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 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 with mountings were opened up, examined on the 28th April and found in good condition. The scantlings are as on the plan. Thickness of tubes has not been changed. Quality of material could not be ascertained. Workmanship is good. The boiler was subsequently examined under steam and safety valves adjusted as above. The vessel is eligible, in my opinion, for the record of B.S. 449.

Survey Fee ... £ Travelling Expenses (if any) £

When applied for 24 June 49 When received ... 19...

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 29 JUL 1949

Assigned

see minute on J.E.Rpt.



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