

REPORT ON BOILERS.

Received at London Office 29 MAY 1946

Date of writing Report 18th May 1946. When handed in at Local Office 22nd May 1946. Port of Maharrä.

No. in Reg. Book. 39732 on the Survey held at Maharrä Date, First Survey 19th Dec. 1945. Last Survey 8th May, 1946.

(Number of Visits 19) Gross 8615 Tons Net 5137.

Master Maharrä Built at Maharrä By whom built Kockemmer M. V. A. Os. Yard No. 286 When built 1946.

Engines made at Maharrä By whom made Kockemmer Meks. V. A. Os. Engine No. 406 When made 1946.

Boilers made at Maharrä By whom made Kockemmer Meks. V. A. Os. Boiler No. 1015/16 When made 1946.

Nominal Horse Power 1361 Owners Radneri A. Os. Saltnorms Port belonging to Stockholm.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Maschinenbauwerke & Anstalt Maschinen A. Os. (Letter for Record)

Total Heating Surface of Boilers $2 \times 122 = 244 \text{ m}^2$. Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Two S. Os. Working Pressure 17.1 lbs./sq. in. 12 kg.

Tested by hydraulic pressure to 306 lbs./sq. in. Date of test 2.3.1946 No. of Certificate 135 & 136 Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler Yes No. and Description of safety valves to each boiler 2. Direct opening loaded.

Area of each set of valves per boiler per Rule 5900 mm² 5710 Pressure to which they are adjusted 173 lbs./sq. in. Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler The boilers placed on a platform at after end of eng. room.

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

Smallest distance between shell of boiler and tank top plating Yes Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3400 mm Length 3400 mm Shell plates: Material Steel Tensile strength 45.5 kg. mm²

Thickness 22.5 mm Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. 83 mm

long. seams T.R. Del. str. Diameter of rivet holes in circ. seams 26 mm Pitch of rivets 171.5 "

Percentage of strength of circ. end seams plate 68.6% Percentage of strength of circ. intermediate seam plate 86.3%

Percentage of strength of longitudinal joint rivets 44.9% Working pressure of shell by Rules 12.1 kg. cm²

Thickness of butt straps outer 17 mm No. and Description of Furnaces in each Boiler Two corrugated.

Material Steel Tensile strength 41.0-47.0 kg. mm² Smallest outside diameter 1076 mm

Length of plain part top 13 mm Thickness of plates 13 mm Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom Yes Working pressure of furnace by Rules 12.2 kg. cm²

End plates in steam space: Material Steel Tensile strength 41.0-47.0 kg. mm² Thickness 22 mm Pitch of stays 350 x 406 mm

How are stays secured Del. nuts and washers Working pressure by Rules 13.0 kg. cm²

Tube plates: Material front Steel Tensile strength 41.0-47.0 kg. mm² Thickness 22 mm

Mean pitch of stay tubes in nests 240 mm Pitch across wide water spaces 330 mm Working pressure front 16.6 kg. cm²

Girders to combustion chamber tops: Material Steel Tensile strength 51.2 kg. mm² Depth and thickness of girder back 19.4 "

at centre 2 (180 x 20) mm Length as per Rule 735 mm Distance apart 210 mm No. and pitch of stays in each 2 - 228 mm

Tensile strength 41.0-50.7 kg. mm² Working pressure by Rules 16.1 kg. cm² Combustion chamber plates: Material Steel

Pitch of stays to ditto: Sides 228 x 176 - 210 mm Back 216 x 203 mm Top 228 x 210 mm Are stays fitted with nuts or riveted over Both.

Working pressure by Rules 12.0 kg. cm² Front plate at bottom: Material Steel Tensile strength 44.5-45.3 kg. mm²

Thickness 22 mm Lower back plate: Material Steel Tensile strength 40.8-47.0 kg. mm² Thickness 22 mm

Pitch of stays at wide water space 330 x 216 mm Are stays fitted with nuts or riveted over Nuts.

Working Pressure 17.8 kg. cm² Main stays: Material Steel Tensile strength 44-50 kg. mm²

Diameter At body of stay 2 3/8" & 3" No. of threads per inch 6 Area supported by each stay 142100 mm²

Working pressure by Rules 12.6 kg. cm² Screw stays: Material Steel Tensile strength 41-47 kg. mm²

Diameter At turned off part 1 1/2" 1 7/8" No. of threads per inch 9 Area supported by each stay 43848 mm²



Working pressure by Rules 12.9 kg. cm^{-2} Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, or Over threads } $1\frac{1}{2}"$, $1\frac{5}{8}"$ & $1\frac{3}{4}"$.

No. of threads per inch 9 ✓ Area supported by each stay 57560 mm^2 Working pressure by Rules 12.0 kg. cm^{-2}

Tubes: Material Steel ✓ External diameter { Plain $2\frac{1}{2}"$ ✓ Stay $2\frac{1}{2}"$ ✓ Thickness { 3.25 mm " 8 " No. of threads per inch 9

Pitch of tubes $89 \text{ v } 92 \text{ mm}$ ✓ Working pressure by Rules 12.5 kg. cm^{-2} Manhole compensation: Size of opening in shell plate $400 \times 500 \text{ mm}$ Section of compensating ring 14040 mm^2 No. of rivets and diameter of rivet hole $44 \cdot 26 \text{ mm}$.

Outer row rivet pitch at ends 190 mm Depth of flange if manhole flanged 82 mm 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 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 casing 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

KOCKUMS
MEKANISKA VERKSTADS AKTIEBOLAG

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

The foregoing is a correct description,
Sturtevant Manufacturer.

Dates of Survey { During progress of work in shops - - } From 19th Dec. 1945 to 2nd March, 1946 Are the approved plans of boiler and superheater forwarded herewith 4.7.1944.
(If not state date of approval.)
{ During erection on board vessel - - - } From 2nd April to 8th May, 1946 Total No. of visits 19.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. 7" SVEABORG, 1st & 2nd Rpt. No. 2217.

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

These donkey boilers have been built under special survey in accordance with the Rules and approved plans.

The material used has been tested as per Rule and the workmanship is good.

An exhaust gas economiser as per Code. &c. enclosed herewith, tested by exhaust gas from top end of the main engine cylinders, has also been installed.

The economiser is fitted with a double 75 mm. safety valve which has been adjusted to the safe working pressure.

Survey Fee See : 333.- } When applied for, 22nd May 1946
Travelling Expenses (if any) £ : : } When received, 19

A. Boring
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 28 JUN 1946

Assigned See F.E. Machy. sph

