

REPORT ON BOILERS.

No. 2350.

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 Maharr.

No. in Reg. Book. 39732

Maharr

Date, First Survey 19th Dec. 1945.Last Survey 8th May 1946.

(Number of Visits 19)

Gross 8615

Net 5137.

Master ✓

Built at Maharr

By whom built Lockman M. V. Q. O.

Yard No. 286

When built 1946.

Engines made at Maharr

By whom made Lockman M. V. Q. O.

Engine No. 406

When made 1946.

Boilers made at Maharr

By whom made Lockman M. V. Q. O.

Boiler No. 1015/16

When made 1946.

Nominal Horse Power 1361

Owners Radwin Q. O. Salomon

Port belonging to Stockholm

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Domnarvets Jernverk & Anstalts Jernverk A. B. (Letter for Record)

Total Heating Surface of Boilers

2 x 122 = 244 m².

Is forced draught fitted Yes

Coal or Oil fired Oil

No. and Description of Boilers

Two S. O.

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

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

as fitted 7697

Pressure to which they are adjusted 17.3 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

Smallest distance between shell of boiler and tank top plating

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.

long. seams T.R. Del. str.

Diameter of rivet holes in

circ. seams 26 mm

Pitch of rivets

83 mm

Percentage of strength of circ. end seams

plate 68.6%

rivets 44.9%

Percentage of strength of circ. intermediate seam

plate 86.3%

rivets 83.1%

Percentage of strength of longitudinal joint

plate 86.3%

rivets 83.1%

combined 89.2%

Working pressure of shell by Rules

12.1 kg. cm².

Thickness of butt straps

outer 17 mm

inner 20 "

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

bottom

Thickness of plates

13 mm

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or c.c. bottom

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

back "

Tensile strength

41.0-47.0 kg. mm².

Thickness

21 mm

Working pressure

front 16.6 kg. cm².

back 19.4 "

Mean pitch of stay tubes in nests

240 mm

Pitch across wide water spaces

330 mm

Working pressure

front 16.6 kg. cm².

back 19.4 "

Girders to combustion chamber tops: Material Steel

Tensile strength

51.2 kg. mm².

Depth and thickness of girder

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

Working pressure by Rules

16.1 kg. cm².

Combustion chamber plates: Material Steel

Tensile strength

41.0-50.7 kg. mm².

Thickness: Sides

17.5 mm

Back

18 mm

Top

17.5 mm

Bottom

17.5 mm

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 1 1/2", 1 5/8" & 1 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 1/2" ✓ Stay 2 1/2" ✓ Thickness { 3.25 mm. 8 " No. of threads per inch 9
Pitch of tubes $89 \times 92 \text{ mm}$ ✓ 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 $44 \times 26 \text{ mm}$
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 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,

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.
while building { During erection on board vessel - - - From 2nd April to 8th May, 1946 (If not state date of approval.)
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 Cuts. &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:-

Travelling Expenses (if any) £ :

When applied for,

When received,

22nd May 1946.

19

A. Barring

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 28 JUN 1946*

Assigned

See F.E. machy. sph



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Foundation