

REPORT ON BOILERS.

No. 544.

Received at London Office

Date of writing Report

192

When handed in at Local Office

192

Port of

ROUEN.

29 NOV 1926

No. in
Reg. Book.

Survey held at

Le Trait.

Date, First Survey

March 3rd

Last Survey

November 9th 1926

on the

STEEL SCREW STEAMER "SOROKA"

(Number of Visits

20

Tons

Gross 1718

Net 1002

Master

Built at

Le Trait

By whom built

Atel et Ch de la Seine Maritime

Yard No.

40

When built

1926

Engines made at

Le Trait

By whom made

Atel et Ch de la Seine Maritime

Engine No.

40

When made

1926

Boilers made at

Le Trait

By whom made

Atel et Ch de la Seine Maritime

Boiler No.

40

When made

1926

Nominal Horse Power

167.

Owners

Det Norsk Russiske

Dampskibsselskab A/s

Port belonging to

Bergen.

19-8

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Haines Métaallurgiques Basse Loire, Trignac. (Armato) Beardmore Glasgow* (Letter for Record *5*)

Total Heating Surface of Boilers *256 m² 260 = 2758* Is forced draught fitted *No* Coal or Oil fired *Coal*

No. and Description of Boilers *2 Single Ended Multitubular* Working Pressure *12 kg 650 = 180%*

Tested by hydraulic pressure to *320 kg/5* Date of test *16.7.26* No. of Certificate *Nos 142* Can each boiler be worked separately *Yes!*

Area of Firegrate in each Boiler *3 m² 018* No. and Description of safety valves to each boiler *2 Spring loaded. High Lift*

Area of each set of valves per boiler {per Rule *3/4 5709 = 3806* as fitted *3928* Pressure to which they are adjusted *180 kg/5* Are they fitted with easing gear *Yes*

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *400 mm* Is oil fuel carried in the double bottom under boilers *No*

Smallest distance between shell of boiler and tank top plating *400 mm* Is the bottom of the boiler insulated *No*

Largest internal dia. of boilers *3 m 740* Length *3 m 350* Shell plates: Material *Steel* Tensile strength *44 to 55 kgp*

Thickness *26 mm* Are the shell plates welded or flanged *Flanged* Description of riveting: circ. seams {end *D.R. LAP.* inter. *Yes*

Long. seams *Double Riveted Double Butt Strap* Diameter of rivet holes in {circ. seams *29 mm* long. seams *29 mm* Pitch of rivets {*97 mm* *196 mm*

Percentage of strength of circ. end seams {plate *43%* rivets *70%* Percentage of strength of circ. intermediate seam {plate *85.2%* rivets *96.2%*

Percentage of strength of longitudinal joint {plate *85.2%* rivets *96.2%* combined *89.6%* Working pressure of shell by Rules *12 kg 7.*

Thickness of butt straps {outer *22 mm* inner *15 mm* No. and Description of Furnaces in each Boiler *2 corrugated Beighton Type.*

Material *Steel* Tensile strength *41 to 47 kgp* Smallest outside diameter *1 m 069.*

Length of plain part {top *14.3 mm* bottom *14.3 mm* Description of longitudinal joint *welded.*

Dimensions of stiffening rings on furnace or c.c. bottom *Yes* Working pressure of furnace by Rules *13 kg 6*

End plates in steam space: Material *Steel* Tensile strength *41 to 47 kgp* Thickness *33.5 mm* Pitch of stays *600 x 420*

How are stays secured *Nuts & washers inside & outside* Working pressure by Rules *14 kg 35*

Tube plates: Material {front *Steel* back *Steel* Tensile strength {*41 to 47 kgp* *41 to 47 kgp* Thickness {*24 mm* *22 mm*

Lean pitch of stay tubes in nests *240 mm* Pitch across wide water spaces *370 mm* Working pressure {front *25 kg 6.* back *17 kg 45*

Girders to combustion chamber tops: Material *Steel* Tensile strength *41 to 47 kgp* Depth and thickness of girder

Centre *190 mm x 44 mm* Length as per Rule *807 mm* Distance apart *210 mm* No. and pitch of stays

Each *2 @ 215 mm* Working pressure by Rules *13 kg 1* Combustion chamber plates: Material *Steel*

Tensile strength *41 to 47 kgp* Thickness: Sides *20 mm* Back *19.5 mm* Top *20 mm* Bottom *25 mm*

Pitch of stays to ditto: Sides *300 mm x 215 mm* Back *260 mm x 260 mm* Top *215 mm x 210 mm* Are stays fitted with nuts or riveted over *Nuts.*

Working pressure by Rules *14 kg 2* Front plate at bottom: Material *Steel* Tensile strength *41 to 47 kgp.*

Thickness *24 mm* Lower back plate: Material *Steel* Tensile strength *41 to 47 kgp* Thickness *22 mm*

Pitch of stays at wide water space *370 mm* Are stays fitted with nuts or riveted over *Nuts.*

Working Pressure *12 kg 65* Main stays: Material *Steel* Tensile strength *41 to 47 kgp*

Diameter {At body of stay, *82 mm* Over threads *85.7 mm* No. of threads per inch *9* Area supported by each stay *600 mm x 420 mm*

Working pressure by Rules *13 kgp* Screw stays: Material *Steel* Tensile strength *41 to 47 kgp*

Diameter {At turned off part, *47.6* Over threads *47.6* No. of threads per inch *11* Area supported by each stay *67600 mm²*

Working pressure by Rules $14\frac{1}{2}$ 3. Are the stays drilled at the outer ends $10\frac{1}{2}$ Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 57.1 \frac{1}{2} \text{ mm} \checkmark$
No. of threads per inch 11 Area supported by each stay 7800 $\frac{1}{2} \text{ mm}$ Working pressure by Rules $18\frac{1}{2}$ 8
Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 89 \frac{1}{2} \text{ mm} \checkmark$ Thickness $\left\{ \begin{array}{l} 4 \frac{1}{2} \text{ mm} \checkmark \\ 8.5 \frac{1}{2} \text{ mm} \checkmark \end{array} \right.$ No. of threads per inch 9
Pitch of tubes $120 \frac{1}{2} \text{ mm} \checkmark$ Working pressure by Rules Plain 15 Kgs Manhole compensation: Size of opening in
shell plate $305 \frac{1}{2} \times 405 \frac{1}{2} \text{ mm}$ Section of compensating ring $595 \frac{1}{2} \times 30 \frac{1}{2} \text{ mm}$ No. of rivets and diameter of rivet holes 34 @ $31 \frac{1}{2} \text{ mm}$
Outer row rivet pitch at ends $200 \frac{1}{2} \text{ mm}$ Depth of flange if manhole flanged $90 \frac{1}{2} \text{ mm}$ Steam Dome: Material None
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$
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 Schmidt Patent Manufacturers of Tubes Cie des Surchauffeurs Paris
Steel castings Cie des Surchauffeurs Paris
Number of elements 2 each boiler Material of tubes Steel Internal diameter and thickness of tubes $16 \frac{1}{2} \times 3 \frac{1}{2} \text{ mm}$
Material of headers Cast Steel Tensile strength 27.8 tons/0" Thickness $22 \frac{1}{2} \text{ mm}$ Can the superheater be shut off and
the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes
Area of each safety valve $1964 \frac{1}{2} \text{ mm}^2$ Are the safety valves fitted with easing gear Yes Working pressure as per
Rules $12\frac{1}{2}$ 65 Pressure to which the safety valves are adjusted 187 lbs/0" Hydraulic test pressure
tubes 38 Kgs/cm^2 castings 38 Kgs/cm^2 and after assembly in place $19 \text{ Kgs/cm}^2 \checkmark$ Are drain cocks or valves fitted
to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

P. F. WORMS & Co.
The foregoing is a correct description,
for the Secretary General

1926.
Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \end{array} \right. \text{Mar } 3^{\text{rd}}, 19^{\text{th}}, 31^{\text{st}}, \text{April } 14^{\text{th}}, 27^{\text{th}}, \text{May } 7^{\text{th}}, 19^{\text{th}},$
while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel - - -} \end{array} \right. \text{June } 4^{\text{th}}, 11^{\text{th}}, 17^{\text{th}}, 23^{\text{rd}}, \text{July } 29^{\text{th}}, 31^{\text{st}}, 27^{\text{th}},$
1926 Oct 6th, Nov 5th, 10th, 15th, 19th,
Are the approved plans of boiler and superheater forwarded herewith only.
(If not state date of approval.)
Total No. of visits 20.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers of this vessel have been specially surveyed under construction and have been efficiently installed on board. They have been fitted according to the Society's Rules and approved plans. The materials and workmanship were sound and good. The safety valves of the superheaters and main boilers were adjusted under steam to the working pressure.

Included in Machinery Report.
Survey Fee ... £ : : When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

L. P. Skett.

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUES. 7 DEC 1926

FRI. 25 FEB 1927

Assigned

See H.E. rpt. attached

TUES. 6 DEC 1927



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Foundation