

REPORT ON BOILERS.

No. 21017

Received at London Office

19 JAN 1934

Date of writing Report 6th Janr, 1934 When handed in at Local Office 19 Port of Hamburg

No. in Reg. Book 41763 Survey held at Kiel Date, First Survey 2nd May, 1933 Last Survey 4th January, 1934

on the Steel Twin Sc. "Pobobosse" (Number of Visits 15) Gross 7026.79 Tons Net 4308.68

Built at Kiel By whom built Deutsche Werke Kiel A.G. Yard No. 228 When built 1934

Engines made at Kiel By whom made Deutsche Werke Kiel A.G. Engine No. 464-71 When made 1934

Boilers made at Kiel By whom made Deutsche Werke Kiel A.G. Boiler No. 1091 When made 1934

Owners A/S Den Norske Afrika og Australielinje- Wilhelm Wilhelmsen's Dampskibs A/S Tönsberg- A/S Tankfart I, IV, V & VI. Mgrs. Wilhelm Wilhelmsen. Port belonging to Tönsberg

VERTICAL DONKEY BOILER.

Made at Kiel By whom made Deutsche Werke Kiel A.G. Boiler No. 1091 When made 1934 Where fixed engine room

Manufacturers of Steel Verein Stahlwerke A.G., Stahl u. Walzwerke Thyssen, Mülheim/Ruhr

Total Heating Surface of Boiler 25 m² Is forced draught fitted no Coal or Oil fired oil

No. and Description of Boilers 1 Vertical Cross Tube Donkey Boiler Working pressure 100 lb

Tested by hydraulic pressure to 200 lb Date of test 26th September, 1933 No. of Certificate 578

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 1, two springs loaded

Area of each set of valves per boiler per rule 2300 mm Pressure to which they are adjusted 100 lb Are they fitted with easing gear Yes
other donkey as fitted 2512 mm

State whether steam from main boilers can enter the donkey boiler no Smallest distance between boiler or uptake and bunkers 800 mm

Is oil fuel carried in the double bottom under boiler no Smallest distance between base of boiler and tank top plating 800 mm

Is the base of the boiler insulated ✓ Largest internal dia. of boiler 1720 mm Height 4920 mm

Shell plates: Material O.H. Steel Tensile strength 44-50 kg/mm² Thickness 10- mm

Are the shell plates welded or flanged flanged Description of riveting: circ. seams lap joint long. seams lap joint D.R.
5 R.

Dia. of rivet holes in circ. seams 20/23 mm Pitch of rivets 49.7/58.2 mm Percentage of strength of circ. seams plates 59.7/58.5 Longitudinal joint plate 68-
long. seams 20 mm 62.7/62.9 rivets 54.6/63.8 rivets 81.8
combined 77.3

Working pressure of shell by rules 7.2 kg/cm² Thickness of butt straps outer none inner none

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished partial spherical Material O.H. Steel

Tensile strength 41-47 kg/mm² Thickness 14.5 mm Radius 1700 mm Working pressure by rules 7.6 kg/cm²

Description of Furnace: Plain, spherical, or dished crown dished Material O.H. Steel Tensile strength 41-47 kg/mm²

Thickness 18- mm External diameter top 1500 mm bottom 1500 mm Length as per rule 2300 mm Working pressure by rules 6.9 kg/cm²

Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Radius of spherical or dished furnace crown 1500 mm Working pressure by rule 7.1 kg/cm²

Thickness of Ogee Ring 20 mm 18 Diameter as per rule D 1720 mm a 1080 mm Working pressure by rule 5.4 kg/cm²

Combustion Chamber: Material ✓ Tensile strength ✓ Thickness of top plate ✓

Radius if dished ✓ Working pressure by rule ✓ Thickness of back plate ✓ Diameter if circular ✓

Length as per rule ✓ Pitch of stays ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Working pressure of back plate by rules ✓

Tube Plates: Material front back Tensile strength ✓ Thickness ✓ Mean pitch of stay tubes in nests ✓

If comprising shell, Dia. as per rule front back Pitch in outer vertical rows ✓ Dia. of tube holes FRONT stay plain BACK stay plain

Is each alternate tube in outer vertical rows a stay tube ✓ Working pressure by rules front back

Girders to combustion chamber tops: Material ✓ Tensile strength ✓ Length as per rule ✓

Depth and thickness of girder at centre ✓ Working pressure by rule ✓

Distance apart ✓ No. and pitch of stays in each ✓

Crown stays: Material *Hamburg* Tensile strength *100000* Diameter *1 1/2* at body of stay or over threads *1 1/2*
 No. of threads per inch *12* Area supported by each stay *100* Working pressure by rules *100*

Screw stays: Material *Hamburg* Tensile strength *100000* Diameter *1 1/2* at turned off part or over threads *1 1/2* No. of threads per inch *12*
 Area supported by each stay *100* Working pressure by rules *100* Are the stays drilled at the outer ends *Yes*

Tubes: Material *Hamburg* External diameter *1 1/2* plain stay *1 1/2* Thickness *1/8*
 No. of threads per inch *12* Pitch of tubes *1 1/2* Working pressure by rules *100*

Manhole Compensation: Size of opening in shell plate *400 x 300 mm* Section of compensating ring *100 x 25 mm* No. of rivets and diameter of rivet holes *24, 20 mm* Outer row rivet pitch at ends *135 mm* Depth of flange if manhole flanged *100 mm*

Uptake: External diameter *528 mm* Thickness of uptake plate *14 mm*

Cross Tubes: No. *8* External diameters *118 mm* Thickness of plates *10 mm*

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

The foregoing is a correct description.
Deutsche Werke Kiel
 Aktiengesellschaft
Dr. Immig Manufacturer.

Dates of Survey *During progress of work in shops - 2/5/33, 11-15/5/33, 1-12-19-26/9/33* Is the approved plan of boiler forwarded herewith *Yes, 20/4/33*
 while building *During erection on board vessel - 17-21-24-28/11/33, 1-15-27/12/33, 4/4/34* (If not state date of approval.)
 Total No. of visits *15*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This Donkey Boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letters and instructions thereto and the Society's Rules. The materials used in the construction are made at works recognized by the Committee and have been tested by the Society's Surveyors. Workmanship and material are of good quality. The boiler has been satisfactorily fitted on board, it has been tested under steam and its safety valves have been adjusted to 100 lb pressure. In my opinion it is eligible for notation in the Reg. Book of

D.B. 100 lb
Safety valves' washers: 21.2 x 21.5 mm resp.

Survey Fee ... £ *4* : *4* : When applied for, *10/7/34* 19...
 Travelling Expenses (if any) £ — : — : When received, 19...

Committee's Minute *FRI. 23 JAN 1934*
 Assigned *See other Rpt. Ham. 21017*
FRI. 27 APR 1934
TUE. 3 JUL 1934
JUL 16 OCT 1934