

24 OCT 1929

pt. 5b.

REPORT ON BOILERS.

No. 18592

-2 APR 1929

Received at London Office.

22-10-1929

Date of writing Report 9th MARCH 1929 When handed in at Local Office

Port of HAMBURG AND MALMO

No. in Survey held at TIEL AND MALMO

Date, First Survey 30th January 28-8-29 Last Survey 8th March 11-10-1929

Reg. Boat on the Steel Twin Sc. M.S. "TAI SHAN"

(Number of Visits 7.6) Gross 6604 Tons Net 4057

Built at MALMO By whom built KOCKUMS MEKAN. VERKST. AKTIEB. Yard No. 160 When built 1929

Engines made at MALMO By whom made KOCKUMS M.V. AKTIEB Engine No. 34435 When made 1929

Boilers made at TIEL By whom made DEUTSCHE WERKE A.G. Boiler No. 1059 When made 1929

Owners WILH. WILHELMSEN. THE TRANSPACIFIC CORP. Port belonging to LÖNSBERG. PANAMA RATION

VERTICAL DONKEY BOILER.

Made at Kiel By whom made Deutsche Werke A.G. Boiler No. 1059 When made 1929 Where fixed 3m lbs after port of the motor space

Manufacturers of Steel Messrs. Henschel & Sohn G. m. b. H. - Haltingen.

Total Heating Surface of Boiler 35.19 m. Is forced draught fitted ✓ Coal or Oil fired oil.

No. and Description of Boilers 1 Vertical Donkey Boiler - horizontal boiler. Working pressure 9.5 kg/cm² (135 lb)

Tested by hydraulic pressure to 253 lb. Date of test 25th February 1929 No. of Certificate 479

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

Area of each set of valves per boiler { per rule 3443.19 cm² ✓ as fitted 2514.19 cm² Pressure to which they are adjusted 138 lbs Are they fitted with easing gear yes

State whether steam from main boilers can enter the donkey boiler Smallest distance between boiler or uptake and bunkers

Is oil fuel carried in the double bottom under boiler No ✓ Smallest distance between base of boiler and tank top plating

900 mm Is the base of the boiler insulated Yes Largest internal dia. of boiler 1828 mm Height 4230 mm.

Shell plates: Material S. M. Steel Tensile strength 44-51 kg/cm² Thickness 14 mm.

Are the shell plates welded or flanged flanges Description of riveting: circ. seams { end. by single inter. by single long. seams lap bolt.

Dia. of rivet holes in { circ. seams 26-23 mm Pitch of rivets 88 mm Percentage of strength of circ. seams { plate 58.5% rivets 45.7% of Longitudinal joint { plate 73.9% rivets 73.7% combined.

Working pressure of shell by rules 11.12 kg/cm² Thickness of butt straps { outer inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat partial spherical. Material S. M. Steel.

Tensile strength 41-47 kg/cm² Thickness 24 mm Radius 1800 mm Working pressure by rules 11.3 kg/cm²

Description of Furnace: Plain, spherical, or dished crown partial spherical Material S. M. Steel Tensile strength 41-47 kg/cm²

Thickness 20 mm External diameter { top 1540 mm bottom 1690 mm Length as per rule 1000 mm Working pressure by rules 10.5 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 1200 mm Working pressure by rule 10.44 kg/cm²

Thickness of Ogee Ring 20 mm Diameter as per rule { D 1828 mm a 1650 mm Working pressure by rule 11.45 kg/cm²

Combustion Chamber: Material S. M. Steel. Tensile strength 41-47 kg/cm² Thickness of top plate 21 mm.

Radius if dished 1250 mm Working pressure by rule 10 kg/cm² Thickness of back plate 20 mm Diameter if circular 1300-1500 mm.

Length as per rule 1000 mm Pitch of stays 210 x 300 mm. Are stays fitted with nuts or riveted over riveted over.

Diameter of stays over thread 37.9 mm Working pressure of back plate by rules 11.6 kg/cm²

Tube Plates: Material { front Steel. back Steel. Tensile strength 41-47 kg/cm² Thickness { 21 mm Mean pitch of stay tubes in nests 270 x 270 mm.

If comprising shell, Dia. as per rule { front back Pitch in outer vertical rows { 90-120 mm Dia. of tube holes FRONT { stay 70 mm plain 66 mm BACK { stay 63 mm plain 63.5 mm

Is each alternate tube in outer vertical rows a stay tube each tube. Working pressure by rules { front 15.3 kg/cm² back 15.3 kg/cm²

Girders to combustion chamber tops: Material

Depth and thickness of girder at centre

Distance apart No. and pitch of stays in each

Tensile strength

Length as per rule

Working pressure by rule

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Crown stays: Material _____ Tensile strength _____ Diameter ^{at body of stay,} _____
 No. of threads per inch _____ Area supported by each stay _____ Working pressure by rules _____
Screw stays: Material *L. & L. Steel* Tensile strength *34-42 kg.* Diameter ^{at turned off part,} *34 mm.* No. of threads per inch *9.*
 Area supported by each stay *210 x 300 mm* Working pressure by rules *approved.* Are the stays drilled at the outer ends *yes*
Tubes: Material *Stamless steel tubes* External diameter ^{plain} *63.5 mm.* Thickness *3.25 mm.*
 No. of threads per inch *9.* Pitch of tubes *90 x 90 mm.* Working pressure by rules *12.5 kg./cm²*
Manhole Compensation: Size of opening in shell plate *300 x 400 mm* Section of compensating ring _____ No. of rivets and diam. _____
 of rivet holes _____ Outer row rivet pitch at ends _____ Depth of flange if manhole flanged *85 mm.*
Uptake: External diameter _____ Thickness of uptake plate _____
Cross Tubes: No. _____ External diameters _____ Thickness of plates _____

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
 Manufaktur

Dates of Survey ^{During progress of} *30/1-4/2-11/2-18/2-20/2-25/2-3/3/29*
 while building ^{During erection on} *28/8 17/9 17/9 3/10 6/10 11/10 1929*
 board vessel - -

Is the approved plan of boiler forwarded herewith *26.4.28 for*
 (If not state date of approval.) *N.S. 220/22/23. D. 21.*
 Total No. of visits *7 + 6*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *Material and workmanship of this Donkey Boiler are of good quality. The materials used in the construction are made at Horker recognized by the Committee and tested by the Society's Surveyors in accordance with the requirements of the Rules. This Donkey Boiler has been constructed in accordance with the approved plan, dated 26.4.28 for the N.S. 220/22/23 - Deutsche Werke - H.G. Kiel, the Secretary's letter and otherwise in conformity with the requirements of the Rules.*

It has been shipped to Malaga, where it is intended to be fitted on board and tested under steam.

Having been built under Special Survey & tested to hydraulic pressure of 253 lbs per sq. inch with satisfactory results it is eligible in my opinion for record N.D.B. 29. subject to satisfactory erection on board and examination under steam.

This boiler has been installed onboard under my inspection and to my satisfaction. All steam, feed and other pipes have been tested as per Rule and the safety valves adjusted under steam as above.

A donkey pump 90x60x40 mm double and an injector are fitted

Admiral

Survey Fee ... £ *4 : 4 : -* When applied for, *28. 3. 1929*
 Travelling Expenses (if any) £ *1 : 76 : -* When received, *16. 4. 1929*

Committee's Minute

TUE. 29 OCT 1929

Assigned

See Memo Rpt 942

Friedrich Gill
 Engineer Surveyor to Lloyd's Register of Shipping.

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