

# REPORT ON BOILERS.

No. 12516

Received at London Office MAY 18 1939

Date of writing Report 10 When handed in at Local Office 13.5.39 Port of Trieste

No. in Survey held at TRIESTE & MONFALCONE Date, First Survey 1st March 1938 Last Survey 2nd May 1939

Reg. Book: 98666 on the "JAMES J. MAGUIRE" (Number of Visits 36) Gross Tons 10525 Net Tons 6065

Master — Built at MONFALCONE By whom built CANT. RIUNITI 90. Yard No. 1207 When built 1939

Engines made at TURIN By whom made FIAT. S.G.M. Engine No. 2567 When made 1939

Boilers made at TRIESTE By whom made CANT. RIUNITI DEL ADRIATICO Boiler No. 1819 1820 When made 1939

Nominal Horse Power 183 x 2 Owners ORIENTAL TANKER L.D. Port belonging to LONDON

## MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR~~ DONKEY.

DEUTSCHE RÖHRENWERKE A.G.

Manufacturers of Steel WITKOWITZER BERGBAU & ÖSTER. ALPINE MONTAN. G. (Letter for Record S.)

Total Heating Surface of Boilers 256 m<sup>2</sup> Is forced draught fitted YES Coal or Oil fired OIL BURNING.

No. and Description of Boilers 2. CYLINDRICAL MARINE BOILERS. Working Pressure 14 kg/cm<sup>2</sup> (200 LBS)

Tested by hydraulic pressure to 350 LBS Date of test 3.6.38 No. of Certificate 321 322 Can each boiler be worked separately YES.

Area of Firegrate in each Boiler — No. and Description of safety valves to each boiler 2 SPRING DIRECT LOADED.

Area of each set of valves per boiler {per Rule 10322 m<sup>2</sup> as fitted 15707.9 m<sup>2</sup> Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear YES

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

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 DECK plating 24" Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 4400 m/m. Length 3690 m/m Shell plates: Material S.M.S. Tensile strength 44-55 kg/cm<sup>2</sup>

Thickness 34 m/m. Are the shell plates welded or flanged NO Description of riveting: circ. seams {end DOUBLE 215-2 FF inter. NONE

long. seams TREA. D.B.S.T. Diameter of rivet holes in {circ. seams 35 m/m. Pitch of rivets 106.28 m/m. long. seams 35 m/m. 230 m/m.

Percentage of strength of circ. end seams {plate 61% rivets 77% Percentage of strength of circ. intermediate seam {plate — rivets —

Percentage of strength of longitudinal joint {plate 84.9% rivets 94.2% Working pressure of shell by Rules 16.5 kg/cm<sup>2</sup> combined 82.2%

Thickness of butt straps {outer 27 m/m. inner 30 m/m. No. and Description of Furnaces in each Boiler 3 CORRUGATE MORISON TYPE

Material S.M.S. Tensile strength 41-47 kg/cm<sup>2</sup> Smallest outside diameter 1080 m/m.

Length of plain part {top 225 m/m. bottom 225 x 305 m/m. Thickness of plates {crown 15 m/m. Description of longitudinal joint WELDED. bottom 15 m/m.

Dimensions of stiffening rings on furnace or c.c. bottom NONE Working pressure of furnace by Rules 14.2 kg/cm<sup>2</sup>

End plates in steam space: Material S.M.S. Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 33 m/m. Pitch of stays 480 x 420 m/m.

How are stays secured PASS THROUGH PLATE FITTED WITH NUTS INS. OUT. Working pressure by Rules 16.5 kg/cm<sup>2</sup>

Tube plates: Material {front S.M.S. Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 23 m/m. back S.M.S. 41-47 kg/cm<sup>2</sup> 23 m/m.

Mean pitch of stay tubes in nests 220 x 360 m/m. Pitch across wide water spaces 367 m/m. Working pressure {front 17.8 kg/cm<sup>2</sup> back 17.8 kg/cm<sup>2</sup>

Girders to combustion chamber tops: Material S.M.S. Tensile strength 44-55 kg/cm<sup>2</sup> Depth and thickness of girder

at centre 250 m/m. 18 m/m. Length as per Rule 970 m/m. Distance apart 220 m/m. No. and pitch of stays

in each 3 PITCH 205 m/m. Working pressure by Rules 15.4 kg/cm<sup>2</sup> Combustion chamber plates: Material S.M.S.

Tensile strength 41-47 kg/cm<sup>2</sup> Thickness: Sides 19 m/m. Back 19 m/m. Top 19 m/m. Bottom 23 m/m.

Pitch of stays to ditto: Sides 205 x 185 m/m. Back 190 x 190 m/m. Top 205 x 220 m/m. Are stays fitted with nuts or riveted over NUTS.

Working pressure by Rules 19.7 kg/cm<sup>2</sup> Front plate at bottom: Material S.M.S. Tensile strength 41-47 kg/cm<sup>2</sup>

Thickness 23 m/m. Lower back plate: Material S.M.S. Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 22 m/m.

Pitch of stays at wide water space 367 x 190 m/m. Are stays fitted with nuts or riveted over NUTS & RIVETED OVER.

Working Pressure 22.1 kg/cm<sup>2</sup> Main stays: Material S.M.S. Tensile strength 44-50 kg/cm<sup>2</sup>

Diameter {At body of stay, or Over threads 22, 47 m/m. No. of threads per inch 9. Area supported by each stay 201600 m/m<sup>2</sup>

Working pressure by Rules 16.4 kg/cm<sup>2</sup> Screw stays: Material S.M.S. Tensile strength 41-47 kg/cm<sup>2</sup>

Diameter {At turned off part, or Over threads 39 m/m. No. of threads per inch 9. Area supported by each stay 36400 m/m<sup>2</sup>



Working pressure by Rules  $16.6 \text{ Kg/cm}^2$  Are the stays drilled at the outer ends **NO** Margin stays: Diameter { At turned off part. or Over threads  $54 \text{ mm}$ .  
 No. of threads per inch **9** Area supported by each stay  $37925 \text{ mm}^2$  Working pressure by Rules  $34 \text{ Kg/cm}^2$   
**Tubes:** Material **S.M.S.** External diameter { Plain  $83 \text{ mm}$ . Stay  $83 \text{ mm}$ . Thickness {  $4 \text{ mm}$ .  $12 \text{ mm}$ . No. of threads per inch **9**.  
 Pitch of tubes  $220 \times 220 / 220 \times 367 \text{ mm}$  Working pressure by Rules  $17.8 \text{ Kg/cm}^2$  Manhole compensation: Size of opening in shell plate  $560 \times 460 \text{ mm}$ . Section of compensating ring  $34 \times 650 \text{ mm}$ . No. of rivets and diameter of rivet holes  $42; 35 \text{ mm}$ .  
 Outer row rivet pitch at ends  $180 \text{ mm}$ . Depth of flange if manhole flanged  $101 \text{ mm}$ . 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 { 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 OF WITHWITZER** Steel forgings **BERGHAU. E.S.** Steel castings \_\_\_\_\_  
 Number of elements **22** Material of tubes **STEEL** Internal diameter and thickness of tubes  $32 \times 38 \text{ mm}$ .  
 Material of Headers **S.M.S.** Tensile strength  $42.4 - 43.6 \text{ Kg/mm}^2$  Thickness  $22 \text{ mm}$ . 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  $31808 \text{ mm}^2$  (FOR TWO VALVES) Are the safety valves fitted with easing gear **YES**. Working pressure as per Rules  $14 \text{ Kg/cm}^2$  (200 LBS). Pressure to which the safety valves are adjusted **210 LBS**. Hydraulic test pressure: tubes  $42 \text{ Kg/cm}^2$  forgings and castings  $42 \text{ Kg/cm}^2$  and after assembly in place  $15 \text{ Kg/cm}^2$ ? Are drain cocks or valves fitted to free the superheater from water where necessary **YES**.  
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with **YES**.

Cantieri Riuniti dell'Adriatico  
**FABBRICA MACCHINE S. ANDREA**

The foregoing is a correct description,  
 Manufacturer: \_\_\_\_\_

Dates of Survey { During progress of work in shops - - - 1938 Mar 1, 3, 9, 31, Apr 1, 5, 7, 14, 26, May 6, 11, 23, 24. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) \_\_\_\_\_  
 while building { During erection on board vessel - - - 1939 Feb 13, 28, Mar 2, 8, 14, 15, 21, Apr 6, 17, 25 Total No. of visits **36**.  
 May 1, 2.

Is this Boiler a duplicate of a previous case **YES**. If so, state Vessel's name and Report No. **M/S. EDWY. P. BROWN - (N° 12042)**  
**M/S. JOHN. A. BROWN - (N° 12086)**

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) **These Boilers and Superheaters have been constructed under Special Survey in accordance with the Rules and approved plans, and Secretary letter. The materials and the workmanship are good. The Boilers mountings have been examined and found in order, and duly stamped and numbered for identification. The Boilers have been satisfactorily fitted on board and securely fastened. The safety valves were adjusted to blow at 205 lbs. - The certificates of materials for these Boilers and for the Boilers Nos. 1818 & 1821, intended for sister ship Nos. 1208 are herewith attached. -**

Survey Fee ... **£ 3386 -** When applied for, **13/5 10 39**  
 Travelling Expenses (if any) £ **✓** : When received, **7.5 10 35 076**

**Gov. J. J. ...**  
 Engineer Subordinate to Lloyd's Register of Shipping

Committee's Minute \_\_\_\_\_  
 Assigned **Dec Tri. F.C. 12516**