

## REPORT ON BOILERS.

No. 24881

9 APR 1953

Received at London Office.....

Date of writing Report 20<sup>th</sup> MAR 1953. When handed in at Local Office 25<sup>th</sup> MAR 1953. Port of GREENOCK

No. in Reg. Book 35 Survey held at GREENOCK Date, First Survey 18/8/52 Last Survey 17/3/1953

95726 on the MOTORSHIP "TUAREG" (Number of Visits.....) Tons {Gross 11,480 Net 6569

Built at PORT GLASGOW By whom built LITHGOWS LTD., KINGSTON YARD Yard No. 1069 When built 3/1953

Engines made at GREENOCK By whom made J.G. KINCAID &amp; Co., LTD., Engine No. K220 When made 3/1953

Boilers made at GREENOCK By whom made J.G. KINCAID &amp; Co., LTD., Boiler No. K220 When made 3/1953

MN as per Rule ✓ Owners WILH. WILHELMSEN Port belonging to TÖNSBERG

MULTITUBULAR BOILERS ~~MAIN~~ ~~STEAM~~ ~~FOR~~ DONKEY.

Manufacturers of Steel COLVILLES LTD.

Total Heating Surface of Boilers 5190 SQ. FT. (2 x 2955) Of Superheaters. ✓

Total for Register Book 5190 Is forced draught fitted YES Coal or Oil fired OIL &amp; OR EXH. GAS

No. and Description of Boilers 2 CYLINDRICAL S.E. Working Pressure 180  $\frac{lbs}{sq. in.}$ Tested by hydraulic pressure to 320  $\frac{lbs}{sq. in.}$  Date of test 5.10/10/52 No. of Certificate S. 2685 Can each boiler be worked separately YESArea of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler ONE-2 $\frac{1}{2}$ " DOUBLE SPRING IMPROVED HIGH LIFT.Area of each set of valves per boiler {per Rule 9.46  $\frac{sq. in.}{sq. in.}$  as fitted 9.81  $\frac{sq. in.}{sq. in.}$  Pressure to which they are adjusted 180  $\frac{lbs}{sq. in.}$  Are they fitted with easing gear YES

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

Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Is oil fuel carried in the double bottom under boilers No. 8 CRS ON FLAT

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 15'-4 $\frac{23}{32}$ " Length 12'-0" Shell plates: Material STEEL Tensile strength 29/33  $\frac{TONS}{sq. in.}$ 

If fusion welded, state name of welding Firm ✓ Have all the requirements of the Rules for Class I vessels

been complied with. ✓ Thickness 1 $\frac{3}{32}$ " Are the shell plates welded or flanged No. Description of riveting: circ. seams {end DR inter ✓long. seams TRODS Diameter of rivet holes in {circ. seams 1 $\frac{1}{4}$ " long. seams 1 $\frac{1}{2}$ " Pitch of rivets {3.5834" 8 $\frac{1}{2}$ "

Percentage of strength of circ. end seams {plate 64.9 rivets 44.2 Percentage of strength of circ. intermediate seam {plate 85.29 rivets ✓

Percentage of strength of longitudinal joint {plate 87.6 rivets 88.1 combined ✓

Thickness of butt straps {outer 1" inner 1 $\frac{1}{8}$ " No. and Description of Furnaces in each Boiler 3 - DEIGHTON CORRUGATEDMaterial STEEL Tensile strength 26/30  $\frac{TONS}{sq. in.}$  Smallest outside diameter 3'-11 $\frac{3}{16}$ "Length of plain part {top ✓ bottom ✓ Thickness of plates 1 $\frac{9}{32}$ " Description of longitudinal joint WELD

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

End plates in steam space: Material STEEL Tensile strength 26/30  $\frac{TONS}{sq. in.}$  Thickness 1 $\frac{11}{32}$ " Pitch of stays 1'-8 $\frac{1}{2}$ " x 1'-10"

How are stays secured DN

Tube plates: Material {front STEEL Tensile strength 26/30  $\frac{TONS}{sq. in.}$  Thickness {1 $\frac{15}{16}$ " 2 $\frac{3}{32}$ "Mean pitch of stay tubes in nests 8.74" Pitch across wide water spaces 1'-1 $\frac{1}{2}$ "Girders to combustion chamber tops: Material STEEL Tensile strength 29/33  $\frac{TONS}{sq. in.}$  Depth and thickness of girderat centre 10" x 1 $\frac{3}{16}$ " Length as per Rule 2'-11 $\frac{5}{8}$ " Distance apart 8 CRS & 1 @ 7 CRS No. and pitch of staysin each NONE. GIRDERS WELDED TO BOXES. 5 WELDS EACH 3" LONG. APPROX 9 $\frac{1}{2}$ " CRS. Combustion chamber plates: Material STEELTensile strength 26/30  $\frac{TONS}{sq. in.}$  Thickness: Sides 2 $\frac{3}{32}$ " Back 2 $\frac{1}{32}$ " Top 2 $\frac{1}{32}$ " Bottom 2 $\frac{1}{32}$ "Pitch of stays to ditto: Sides 9" x 9 $\frac{1}{4}$ " Back 8 $\frac{3}{4}$ " x 9" Top WELDED GIRDERS Are stays fitted with nuts or riveted over NUTS EXCEPT ON SHELL PLATES.Front plate at bottom: Material STEEL Tensile strength 26/30  $\frac{TONS}{sq. in.}$ Thickness 1 $\frac{15}{16}$ " Lower back plate: Material STEEL Tensile strength 26/30  $\frac{TONS}{sq. in.}$  Thickness 2 $\frac{5}{32}$ "Pitch of stays at wide water space 1'-1 $\frac{1}{2}$ " x 9" Are stays fitted with nuts or riveted over NUTSMain stays: Material STEEL Tensile strength 28/32  $\frac{TONS}{sq. in.}$ Diameter {At body of stay 3 $\frac{1}{4}$ " No. of threads per inch 6Screw stays: Material STEEL Tensile strength 26/30  $\frac{TONS}{sq. in.}$ Diameter {At turned off part 1 $\frac{5}{8}$ " No. of threads per inch 9

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Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 1/4" or Over threads. 1 1/4"

No. of threads per inch 9 ✓

Tubes: Material STEEL ✓ External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 9 W.G. 1/4, 5/16 x 3/8" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" ✓

shell plate 20 1/2" x 16 1/2" ✓ Section of compensating ring 2(12 2312-1.375) x 1" ✓ Manhole compensation: Size of opening 36 - 1 3/8"

Outer row rivet pitch at ends 9.375" ✓ Depth of flange if manhole flanged 4" ✓ No. of rivets and diameter of rivet holes 36 - 1 3/8"

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 \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_

Inner radius of crown \_\_\_\_\_

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 \_\_\_\_\_

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 THE APPROPRIATE 11 to 22 inclusive for boilers been complied with YES

The foregoing is a correct description.  
For **JOHN G. KINCAID & COMPANY LIMITED.**  
*John Kincaid*  
Chief Draughtsman.

Dates of Survey { During progress of work in shops - - } SEE MACHINERY REPORT Are the approved plans of boiler and superheater forwarded herewith YES  
(If not state date of approval.)  
building { During erection on board vessel - - - } SEE MACHINERY REPORT Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) THE BOILERS HAVE BEEN CONSTRUCTED UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE RULES AND APPROVED PLANS. THE MATERIALS AND WORKMANSHIP ARE GOOD. THE BOILERS HAVE BEEN EFFICIENTLY INSTALLED ON BOARD THE VESSEL AND THE SAFETY VALVES WERE ADJUSTED UNDER STEAM TO 180 <sup>lbs</sup>/<sub>sq</sub> IN. A SATISFACTORY ACCUMULATION TEST WAS CARRIED OUT.

COMPRESSION RINGS:-	PORT BOILER.	STARBOARD BOILER.
PORT VALVE	<u>31" / 64</u>	<u>31" / 64</u>
STARBOARD VALVE	<u>33" / 64</u>	<u>17" / 32</u>

sum  
27/3/53

SEE MACHINERY REPORT.

Survey Fee ... £ : : } When applied for, ..... 19.....  
Travelling Expenses (if any) £ : : } When received ..... 19.....

H.K. Taylor.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 APR 1953  
Assigned SEE ACCOMPANYING MACHINERY REPORT.