

# REPORT ON BOILERS.

Sld. No. 32174  
New No. 16040

Received at London Office JUN 24 1937

Date of writing Report \_\_\_\_\_ 19 \_\_\_\_\_ When handed in at Local Office 23.6.1937 Port of Middlesbrough

No. in Survey held at Stockton Date, First Survey 10 March Last Survey 17 June 1937  
g. Book. \_\_\_\_\_ (Number of Visits 11) Gross \_\_\_\_\_ Net \_\_\_\_\_

on the M.V. TROMA Tons \_\_\_\_\_

Master \_\_\_\_\_ Built at Sunderland By whom built W. Doxford & Sons Ltd No. 638 When built 1937

Engines made at Newcastle By whom made Wheatley & Wilson, Rotherham Ltd Engine No. 1550 When made 1937

Boilers made at Stockton By whom made Stockton Chem Eng & Ryby Boilers Ltd No. 6253 When made 1937

Nominal Horse Power \_\_\_\_\_ Owners R/V Ludwig Maximilians Rederei Port belonging to Bergen

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland Ltd. (Letter for Record S)

Total Heating Surface of Boilers 1626 sq. ft. Is forced draught fitted no. Coal or Oil fired oil.

No. and Description of Boilers 1 S.S. Working Pressure 120 lbs.

Tested by hydraulic pressure to 220 lbs. Date of test 17.6.37 No. of Certificate 6914 Can each boiler be worked separately yes

Area of Firegrate in each Boiler \_\_\_\_\_ No. and Description of safety valves to each boiler 2 Lever Spring.

Area of each set of valves per boiler { per Rule 12.82 sq. in. as fitted 16.6 sq. in. Pressure to which they are adjusted 120 lbs. Are they fitted with easing gear yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no.

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Is oil fuel carried in the double bottom under boilers no.

Smallest distance between shell of boiler and tank top plating 2'-10" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 11-10 7/8" Length 11'-6" Shell plates: Material Steel Tensile strength 29/32

Thickness 1/16" Are the shell plates welded or flanged no. Description of riveting: circ. seams { end DR inter. -

Long. seams T.R. D.B.S. (4 rivets) Diameter of rivet holes in { circ. seams 1 1/16" long. seams 1 5/16" Pitch of rivets { 3 3/8" 5 3/8"

Percentage of strength of circ. end seams { plate 68.5 rivets 45.5 Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate 84.9 rivets 83.8 combined - Working pressure of shell by Rules 123 lbs.

Thickness of butt straps { outer 9/16" inner 1/16" No. and Description of Furnaces in each Boiler 2 Cf.

Material Steel Tensile strength 26/30 Smallest outside diameter 3'-11 1/2"

Length of plain part { top - bottom - Thickness of plates { crown 13/32" bottom 13/32" Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom \_\_\_\_\_ Working pressure of furnace by Rules 121 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 27/32" Pitch of stays 17" x 16"

How are stays secured D.N. & W. Working pressure by Rules 142 lbs.

Tube plates: Material { front Steel back Steel Tensile strength { 26/30 Thickness { 27/32" 13/16"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 14" Working pressure { front 157 back 249

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder at centre 7" x 5 1/8" Double Length as per Rule 30 1/2" Distance apart 9" No. and pitch of stays in each 2 @ 9 1/2" Working pressure by Rules 126 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 19/32" Back 9/16" Top 19/32" Bottom 7/8"

Pitch of stays to ditto: Sides 9" x 9 1/8" (mean) Back 9 1/4" x 8 3/4" Top 9" x 9 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 129 lbs. Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 27/32" Lower back plate: Material Steel Tensile strength 26/30 Thickness 27/32"

Pitch of stays at wide water space 13 1/2" x 9 1/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 201 Main stays: Material Steel Tensile strength 28/32

Diameter { At body of stay, 2 1/4" No. of threads per inch 6 Area supported by each stay 288.4 sq. in. or Over threads \_\_\_\_\_ Tensile strength 26/30

Working pressure by Rules 120 Screw stays: Material Steel Tensile strength \_\_\_\_\_

Diameter { At turned off part, 1 3/8" No. of threads per inch 9 Area supported by each stay 84 sq. in. or Over threads \_\_\_\_\_

Working pressure by Rules 120 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 1 1/8 { At turned off part, or Over threads }  
 No. of threads per inch 9 Area supported by each stay 100 Working pressure by Rules 152 lbs  
 Tubes: Material Lap welded iron External diameter { Plain 2 3/4 Swelled 1 1/2 } Thickness 8 W.G. No. of threads per inch 9  
 Pitch of tubes 3 3/4 x 3 3/4 Working pressure by Rules 275 lbs S. 276 lbs Manhole compensation: Size of opening  
 shell plate 20" x 16" Section of compensating ring 7" x 1" No. of rivets and diameter of rivet holes 44 5/16  
 Outer row rivet pitch at ends 6 1/4" Depth of flange if manhole flanged ✓ Steam Dome: Material  
 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  
 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  
 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 Working pressure as per  
 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure  
 tubes, 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 14 to 22 inclusive for boilers been complied with yes  
 For and on behalf of  
 The Associated Chemical Engineers & Boiler Makers Ltd.  
George H. H. H. Manufacturer  
 DIRECTOR.

Dates of Survey { During progress of work in shops - - } 1937: Mar 10, 31, Apr 6, 14, 23, 26, May 7, 21, Jun 4, 8, 17  
 { During erection on board vessel - - - }  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 Total No. of visits 11

Is this Boiler a duplicate of a previous case yes. If so, state Vessel's name and Report No. MSB. Rpt 15774

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been made under Special Survey in accordance with the approved plan & the Requirements of the Rules. The material & workmanship are good & the boiler was found tight under hydraulic test 230 lbs sq. & suitable for a working pressure of 120 lbs sq. The boiler has been despatched to Messrs W. Donford & Sons Sunderland for their Contract No 638.

This boiler has been efficiently fitted on board and its safety valves have been adjusted under steam in accordance with the requirements of the Rules.  
L. R. H. H.  
10. 8. 37.

Survey Fee ... .. £ 10 : 16 : 0 When applied for, 23-6-1937  
 Travelling Expenses (if any) £ : : When received, 23-8-1937

C. Moffatt  
 Engineer Surveyor Lloyd's Register of Shipping.

Committee's Minute FRI 20 AUG 1937  
 Assigned See Std. J.C. 32174