

## REPORT ON BOILERS.

No. 19929

Received at London Office

20 MAR 1935

Date of writing Report 7 3 35 When handed in at Local Office 16<sup>th</sup> MARCH 1935 Port of GlasgowNo. in Reg. Book 15 Survey held at Glasgow Date, First Survey 23<sup>rd</sup> MARCH 1935 Last Survey 15<sup>th</sup> MARCH 1935  
on the M/S "Triaster" (Number of Visits ✓) Gross 6032.29  
Tons Net 3563.69Built at Glasgow By whom built Lithgow & Co Ltd Yard No. 842 When built 1935  
Engines made at Glasgow By whom made John & K. Macdonald & Co Ltd Engine No. 1180 When made 1935  
Boilers made at ditto By whom made ditto Boiler No. 1180 When made 1935  
Owners British Phosphate Commissioners Port belonging to Glasgow

## VERTICAL DONKEY BOILER.

Made at Glasgow By whom made John & K. Macdonald & Co Ltd Boiler No. 1180 When made 1935 Where fixed Engine Room  
Manufacturers of Steel Galville & Co LtdTotal Heating Surface of Boiler 375<sup>ft</sup> Is forced draught fitted No Coal or Oil fired OilNo. and Description of Boilers one Vertical water heat Working pressure 100Tested by hydraulic pressure to 200 Date of test 31-12-34 No. of Certificate 2037Area of Firegrate in each Boiler Oil Fuel No. and Description of safety valves to each boiler Double SpringArea of each set of valves per boiler per rule 4.08 as fitted 4.8 Pressure to which they are adjusted 100 Are they fitted with easing gear YesState whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler Butt head5" Is oil fuel carried in the double bottom under boiler Yes Smallest distance between base of boiler and tank top plating2'-1" Is the base of the boiler insulated Yes Largest internal dia. of boiler 4'-6" Height 15'-5"Shell plates: Material S Tensile strength 28-32 Thickness 1 1/2"Are the shell plates welded or flanged No Description of riveting: circ. seams end. 5/8" Lap long. seams 5/8" LapDia. of rivet holes in 7/8" 1.902 Pitch of rivets 1 7/8" Percentage of strength of circ. seams plate 53.9 of Longitudinal joint plate 53.3  
7/8" 17/8" rivets 47.4 rivets 48.08 combined ✓Working pressure of shell by rules 105 Thickness of butt straps outer innerShell Crown: Whether complete hemisphere, dished partial spherical, or flat Hemisphere Material STensile strength 26-30 Thickness 5/8" Radius 3'-7 1/2" Working pressure by rules 110Description of Furnace: Plain, spherical, or dished crown End Material S Tensile strength 26-30Thickness 5/8" External diameter 4'-0 1/2" Length as per rule 2'-6 5/8" Working pressure by rules 120Pitch 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 3'-6" Working pressure by rule 120Thickness of Ogee Ring ✓ Diameter as per rule D d Working pressure by rule ✓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 Top S Bottom S Tensile strength 26.30 Thickness Top 3/4" Bottom 3/4" Mean pitch of stay tubes in nests 9.625If comprising shell, Dia. as per rule front back Pitch in outer vertical rows ✓ Dia. of tube holes Top 1 1/2" Bottom 1 1/2" plain plainIs each alternate tube in outer vertical rows a stay tube Yes Working pressure by rules Top 115 BottomGirders to combustion chamber tops: Material ✓ Tensile strength ✓Depth and thickness of girder at centre ✓ Length as per rule ✓Distance apart ✓ No. and pitch of stays in each ✓ Working pressure by rule ✓

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Crown stays: Material ☒ Tensile strength ☒ Diameter ☒ at body of stay, or over threads ☒  
No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by rules ☒  
Screw stays: Material ☒ Tensile strength ☒ Diameter ☒ at turned off part, or over threads ☒ No. of threads per inch ☒  
Area supported by each stay ☒ Working pressure by rules ☒ Are the stays drilled at the outer ends ☒  
Tubes: Material *SD steel* External diameter ☒ *1 1/2"* Thickness ☒ *12 WG 9/32"*  
No. of threads per inch *9* Pitch of tubes *2 3/4" - 2 3/4"* Working pressure by rules *137*  
Manhole Compensation: Size of opening in shell plate *14 1/2" x 18 1/2"* Section of compensating ring *2.35 x 1.115 x 5/8"* No. of rivets and diameter ☒  
of rivet holes *40 at 1 3/16" on plan* Outer row rivet pitch at ends *3 3/4"* Depth of flange if manhole flanged *3*  
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 ☒

The foregoing is a correct description,  
For JOHN G. KINCAID & CO. LIMITED.  
*W. G. Kincaid* Director. Manufacturer.

Dates of Survey ☒ During progress of work in shops - -  
☒ while building ☒ During erection on board vessel - -

SEE MACHINERY REPORT.

Is the approved plan of boiler forwarded herewith ☒  
(If not state date of approval.)  
Total No. of visits ☒

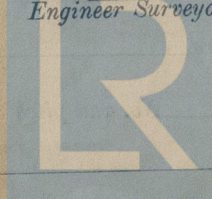
Is this Boiler a duplicate of a previous case *No* If so, state Vessel's name and Report No. ☒

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under special survey in accordance with the approved plan & the workmanship & material are of good quality. It is now securely fitted on board.*  
*This Report accompanies that of the Machinery*

Survey Fee ... £ *40* : When applied for, 19  
Travelling Expenses (if any) £ *10* : When received, 19  
*Charged on Mally Rm.*

*W. G. Kincaid*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 19 MAR 1935*  
Assigned *See accompanying Mach. Report.*



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