

## REPORT ON BOILERS.

No. 12500

DEC. 2 1939

Received at London Office

Date of writing Report 19 When handed in at Local Office 30. 11. 1939 Port of Belfast  
 Vessels included in T.E. etc. rpt  
 No. in Survey held at Belfast Date, First Survey Last Survey 19  
 Reg. Book 36311 on the STEEL TRINER "NAIOTIRA"  
 (Number of Visits Tons Gross Net)  
 Built at Belfast By whom built Haland, Wolff Ltd Yard No. 1019 When built 1939  
 Engines made at Belfast By whom made Haland, Wolff Ltd Engine No. 1019 When made 1939  
 Boilers made at Belfast By whom made Haland, Wolff Ltd Boiler No. 1019 When made 1939  
 Owners Shaw Savill & Albion Co Ltd. Port belonging to Southampton

## VERTICAL DONKEY BOILER.

Made at Belfast By whom made Haland, Wolff Ltd Boiler No. 1019 When made 1939 Where fixed E.R. Top Ford.  
 Manufacturers of Steel Colvilles Ltd  
 Total Heating Surface of Boiler 300 sq ft each boiler. Is forced draught fitted Yes. Coal or Oil fired Oil or Exh. Gas  
 No. and Description of Boilers Two Clarkson Skimble Tube Type DECATO/300 Working pressure 100 lb/sq in.  
 Tested by hydraulic pressure to 200 lb/sq in. Date of test 13.9.39 & 25.9.39 No. of Certificate 1061 & 1062  
 Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1 1/2" Double Spring loaded.  
 Area of each set of valves per boiler per rule 3.26 sq in. as fitted 4.8 sq in. Pressure to which they are adjusted 100 lb/sq in. Are they fitted with easing gear Yes.  
 State whether steam from main boilers can enter the donkey boiler No. Smallest distance between boiler or uptake and bunkers  
 Tank 6' 4" Is oil fuel carried in the double bottom under boiler No. Smallest distance between base of boiler and tank top plating  
 Is the base of the boiler insulated No. Largest internal dia. of boiler 5' - 11 1/16" Height 17' 1 1/2" overall  
 Shell plates: Material Steel Tensile strength 28/92 Ymp Thickness 13/32"  
 Are the shell plates welded or flanged No. Description of riveting: circ. seams end S.R.L. long. seams DR DBS  
 Dia. of rivet holes in circ. seams 3/8" Pitch of rivets 1 1/2" Percentage of strength of circ. seams plate 56.9 rivets 23.5 of Longitudinal joint plate 72.75 rivets 126.5 combined  
 Working pressure of shell by rules 113.6 lb/sq in. Thickness of butt straps outer 3/8" inner 3/8"  
 Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished partial spherical Material Steel  
 Tensile strength 26/30 Ymp Thickness 1 1/16" Radius 5' - 6" Working pressure by rules 100.3 lb/sq in.  
 Description of Furnace: Plain, spherical, or dished crown Plain with dished crown Material Steel Tensile strength 26/30 Ymp  
 Thickness 5/8" External diameter top 42 7/8" bottom 42 7/8" Length as per rule 2' - 5 1/2" Working pressure by rules 145.3 lb/sq in.  
 Pitch of support stays circumferentially None fitted and vertically Are stays fitted with nuts or riveted over  
 Diameter of stays over thread Radius of spherical or dished furnace crown 4' - 0" Working pressure by rule 170.6 lb/sq in.  
 Thickness of Gage Ring Bottom Crown - Dished 13/16" Diameter as per rule D 147.7 lb/sq in.  
 Combustion Chamber: Material Steel Tensile strength 26/30 Ymp Thickness of top plate 5/8"  
 Radius if dished 3' - 0" Working pressure by rule 206 lb/sq in. Thickness of back plate 25/32" Diameter if circular 3' - 1 1/2" ext.  
 Length as per rule 7' - 0" Pitch of stays 6" Are stays fitted with nuts or riveted over  
 Diameter of stays over thread Working pressure of back plate by rules 111.5 lb/sq in.  
 Tube Plates: Material front back Tensile strength Thickness Mean pitch of stay tubes in nests  
 Comprising shell, Dia. as per rule front back Pitch in outer vertical rows Dia. of tube holes FRONT stay BACK stay  
 each alternate tube in outer vertical rows a stay tube Working pressure by rules front back  
 Orders 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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W1139-0448



Crown stays: Material Steel 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 Steel External diameter 2 1/2" in bore Thickness 9/16"  
No. of threads per inch                      Pitch of tubes 6" vertical 6.42" circum. Working pressure by rules as approved  
Manhole Compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 4 3/8" x 1 3/16" No. of rivets and diameter                       
of rivet holes 40 x 1 3/16" holes Outer row rivet pitch at ends 3 3/8" Depth of flange of manhole flanged in shell crown 3"  
Uptake: External diameter 21 1/16" Thickness of uptake plate 1 3/32"  
Cross Tubes: No. None fitted 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,  
For HARLAND AND WOLFF, LIMITED.

A. Marshall Manufacturer  
SECRETARY

Dates of Survey                      During progress of work in shops                       
while building                      During erection on board vessel                       
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 Yes If so, state Vessel's name and Report No.                     

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been constructed under Special Survey in accordance with the Rules and approved plan.  
The materials and workmanship are good.  
These boilers have been efficiently installed onboard, examined under steam, the safety valves adjusted to 100 lbs/sq. and accumulation tests carried out with satisfactory results.  
The boilers are eligible in my opinion to have a second of 200 100 lbs

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

Alan C. Hanna

Engineer Surveyor to Lloyd's Register of Shipping.

TUE 12 DEC 1939

Committee's Minute  
Assigned

See Rel. 7.E. 12500

Lloyd's Register  
Foundation