

# REPORT ON BOILERS.

No. 39816.

30 APR 1929

Received at London Office

HULL

Date of writing Report 29.4.1929 When handed in at Local Office 29 April 1929 Port of HULL  
 No. in Survey held at Hull Date, First Survey 10 Jan'y Last Survey 27 April 1929  
 No. on the Steam Trawler "VARANGA" (Number of Visits 15) Gross Tons 329.65  
 Net Tons 170.51  
 Built at Bursley By whom built Cook, Weldon & Hammonds Ltd Card No. 514 When built 1929  
 Engines made at Hull By whom made Charles S. Holmes & Co Ltd Engine No. 1359 When made 1929  
 Boilers made at Hull By whom made do Boiler No. 1359 When made 1929  
 Nominal Horse Power 96 Owners Letten Bros. Port belonging to Bursley

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

Manufacturers of Steel Wicknitzer, Napier & Dumbarton G/S. (Letter for Record S)  
 Total Heating Surface of Boilers 1698 sq. ft. Is forced draught fitted ho Coal or Oil fired Coal  
 No. and Description of Boilers one single ended return tube 1 SE Working Pressure 200 lbs.  
 Tested by hydraulic pressure to 350 lb. Date of test 28.2.29 No. of Certificate 3698 Can each boiler be worked separately ✓  
 Area of Firegrate in each Boiler 49.2 sq. ft. No. and Description of safety valves to each boiler 2 Spring loaded  
 Area of each set of valves per boiler 9.8 sq. ft. Pressure to which they are adjusted 200 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 ho  
 Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated —  
 Largest internal dia. of boilers 14'-0" Length 10'-8" Shell plates: Material Steel Tensile strength 28/32 Tons  
 Thickness 1 3/32" Are the shell plates welded or flanged — Description of riveting: circ. seams end BR.  
inter. —  
 Pitch of rivets 3 3/4"  
 Diameter of rivet holes in circ. seams 1 9/32" long. seams —  
 Percentage of strength of circ. end seams plate 65.8 Percentage of strength of circ. intermediate seam plate —  
rivets 57.2 rivets —  
 Percentage of strength of longitudinal joint plate 85.03 Working pressure of shell by Rules 201 lbs.  
rivets 90.8 combined 88.8  
 Thickness of butt straps outer 1" No. and Description of Furnaces in each Boiler Three Plain. 3/pf.  
inner 1 1/8" Tensile strength 28/30 Tons. Smallest outside diameter 41"  
 Material Steel Thickness of plates crown 13/16" Description of longitudinal joint Welded  
 Length of plain part top 76" bottom 69" Working pressure of furnace by Rules 219 lbs.  
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 219 lbs. Pitch of stays 18"  
 End plates in steam space: Material Steel Tensile strength 28/30 Tons. Thickness 1 3/16" Working pressure by Rules 220 lbs.  
 How are stays secured Double nuts & washers. Working pressure by Rules 220 lbs. Thickness 1 5/16"  
 Tube plates: Material front Steel Tensile strength 28/30 Tons. Thickness 7/8"  
back — Working pressure front 211 lbs.  
 Lean pitch of stay tubes in nests 10.97" Pitch across wide water spaces 13 3/4" Working pressure back 230  
 Orders to combustion chamber tops: Material Steel Tensile strength 28/32 Tons. Depth and thickness of girder —  
 Distance apart 97" No. and pitch of stays —  
 Length as per Rule 36 3/16" Distance apart 97" No. and pitch of stays —  
 Working pressure by Rules 210 lbs. Combustion chamber plates: Material Steel  
 Tensile strength 28/30 Tons. Thickness: Sides 3/4" Back 23/32" Top 3/4" + 23/32" Bottom 3/4"  
 Pitch of stays to ditto: Sides 9" x 8 3/4" Back 9" x 8 3/4" Top 9" x 8 3/4" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 230 lbs. Front plate at bottom: Material Steel Tensile strength 28/30 Tons  
 Thickness 1 5/16" Lower back plate: Material Steel Tensile strength 28/30 Tons Thickness 29/32"  
 Pitch of stays at wide water space 14" x 8 3/4" Are stays fitted with nuts or riveted over nuts  
 Working Pressure 228 lbs. Main stays: Material Steel Tensile strength 28/32 Tons  
 Diameter At body of stay, 3 1/4" No. of threads per inch 8" Area supported by each stay 324 sq. in.  
Over threads — Working pressure by Rules 248 lbs. Screw stays: Material Steel Tensile strength 28/30 Tons  
 Diameter At turned off part, 17/8" + 1 3/4" No. of threads per inch 10 Area supported by each stay 78.9 sq. in.  
Over threads —

Working pressure by Rules 230 lbs. Are the stays drilled at the outer ends ho Margin stays: Diameter 17/8 (At turned off part or Over threads) 218 lbs.  
 No. of threads per inch 10 Area supported by each stay 97.75 Working pressure by Rules 215 lbs.  
 Tubes: Material Iron External diameter 3 1/2 Thickness 7/16 No. of threads per inch 9  
 Pitch of tubes 4 7/8 Working pressure by Rules 215 lbs. Manhole compensation: Size of opening in shell plate 16 x 12 Section of compensating ring 4'-9" dia. No. of rivets and diameter of rivet holes 16 @ 1 3/2  
 Outer row rivet pitch at ends 10 Depth of flange if manhole flanged - Steam Dome: Material Steel  
 Tensile strength 16/30 Tons Thickness of shell 3/4 Description of longitudinal joint S.R. Lap.  
 Diameter of rivet holes 1 3/2 Pitch of rivets 2 1/4 Percentage of strength of joint 54 Rivets 43.8  
 Internal diameter 33 Working pressure by Rules 226 lbs. Thickness of crown 7/8 No. and diameter of stays 2 @ 2 1/4 Inner radius of crown - Working pressure by Rules 226 lbs. Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 16 @ 1 3/2 Size of doubling plate under dome 4'-9" dia x 1 3/2

**Type of Superheater**

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Manufacturers of \_\_\_\_\_ Tubes \_\_\_\_\_ Steel castings \_\_\_\_\_  
 Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
 the boiler be worked separately \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_ Can the superheater be shut off and  
 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 23 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,  
**FOR CHARLES D. HOLMES & CO., LTD** Manufacturer.

Dates of Survey See attached report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 while building on Macky. Total No. of visits 1

**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 materials & workmanship are sound & good. It has been satisfactorily fitted on board, examined under working conditions & its safety valves adjusted under steam as above.

Survey Fee £ When applied for. 192  
 Travelling Expenses (if any) £ When received. 192

John Shackleton  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 3 MAY 1924  
 Assigned See Report attached

Rpt. 13.  
**REP**  
 Date of writing Report  
 No. in Survey Reg. Book. 62604 on the  
 Built at Be  
 Owners  
 Electric Light  
 System of Dis  
 Pressure of sup  
 Direct or Alto  
 If alternating  
 Has the Auto  
 Generators.  
 are they over  
 Where more th  
 series with each  
 Are all termin  
 short circuited  
 Position of  
 is the ventilo  
 if situated  
 are their ca  
**Earthing,**  
 their respec  
**Main Swi**  
 a fuse on  
**Switchbo**  
 are they p  
 woodwork  
 are they  
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**Main**  
**Instr**  
**Earl**  
**Swi**  
**Joi**