

# REPORT ON BOILERS.

No. 29709

Received at London Office 28 APR 1928

27 APR 1928

Date of writing Report

When handed in at Local Office

Port of Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey 24 Apr 1928

10058 of the

S.S. "BARBARA MARIE"

(Number of Visits)

Gross 4223  
Net 2535

Master

Built at Sunderland

By whom built W. J. Priestman & Co

Card No. 278 When built 1928

Engines made at Sunderland

By whom made George Rank Ltd.

Engine No. 1150 When made 1928

Boilers made at do

By whom made do

Boiler No. 1150 When made 1928

Nominal Horse Power 375

Owners The Cliffside Shipping Co

Port belonging to Newcastle

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

Manufacturers of Steel David White & Sons Ltd (Letter for Record 5)

Total Heating Surface of Boilers 6009 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers Three cyl. math. S.E. 3SB Working Pressure 180 LBS

Tested by hydraulic pressure to 325 LBS Date of test 28/9/27 No. of Certificate 3959 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 58 sq ft No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler { per Rule 12.8 as fitted 14.12 Pressure to which they are adjusted 185 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 6-0 Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 3-0 Is the bottom of the boiler insulated No

Largest internal dia. of boilers 14-3 3/4 Length 11-0 Shell plates: Material Steel Tensile strength 28 to 32 TONS

Thickness 1 1/8 Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R.L inter. 5/8

long. seams T.R. JBS Diameter of rivet holes in { circ. seams F 1 3/16 A 1 1/2 Pitch of rivets { 3 1/16 3 5/8 8 3/4

Percentage of strength of circ. end seams { plate 65.6 rivets 45% Percentage of strength of circ. intermediate seam { plate — rivets —

Percentage of strength of longitudinal joint { plate 85% rivets 92% combined 92.8% Working pressure of shell by Rules 180 LBS

Thickness of butt straps { outer 29/32 inner 1 1/32 No. and Description of Furnaces in each Boiler 3-C.F. Jeighton's

Material Steel Tensile strength 26 to 30 TONS Smallest outside diameter 3-5 5/8

Length of plain part { top — bottom — Thickness of plates { crown 1 1/2 bottom 3/2 Description of longitudinal joint WELDED

Dimensions of stiffening rings on furnace or c.c. bottom — Working pressure of furnace by Rules 180 LBS

End plates in steam space: Material STEEL Tensile strength 26 to 30 TONS Thickness 1 5/8 Pitch of stays 20 x 21 3/4

How are stays secured DNW Working pressure by Rules 184 LBS

Tube plates: Material { front STEEL back STEEL Tensile strength { 26 to 30 TONS Thickness { 1 1/8 3/4

Mean pitch of stay tubes in nests 10 1/4 Pitch across wide water spaces 14 1/4 Working pressure { front 183 LBS back 191

Girders to combustion chamber tops: Material STEEL Tensile strength 28 to 32 TONS Depth and thickness of girder

at centre 6 1/2 x 1 3/4 Length as per Rule 28 7/8 Distance apart 8 No. and pitch of stays

in each 2 @ 8 Working pressure by Rules 181 LBS Combustion chamber plates: Material STEEL

Tensile strength 26 to 30 TONS Thickness: Sides 3/4 Back 5/8 Top 1/2 Bottom 3/4

Pitch of stays to ditto: Sides 8 1/2 x 8 Back 8 1/2 x 8 1/4 Top 8 x 8 Are stays fitted with nuts or riveted over NUTS

Working pressure by Rules 192 LBS Front plate at bottom: Material STEEL Tensile strength 26 to 30 TONS

Thickness 1 3/8 Lower back plate: Material STEEL Tensile strength 26 to 30 TONS Thickness 1 5/8

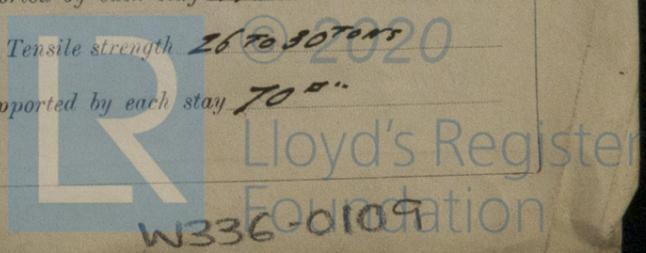
Pitch of stays at wide water space 14 3/4 x 17 1/4 x 8 Are stays fitted with nuts or riveted over NUTS

Working Pressure 198 LBS Main stays: Material STEEL Tensile strength 28 to 32 TONS

Diameter { At body of stay, 3 5/8 or 2 7/8 No. of threads per inch 6 Area supported by each stay 430

Working pressure by Rules 196 LBS Screw stays: Material STEEL Tensile strength 26 to 30 TONS

Diameter { At turned off part, 1 5/8 or 1 1/2 No. of threads per inch 9 Area supported by each stay 70



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Working pressure by Rules **210 LBS.** Are the stays drilled at the outer ends **No** Margin stays: Diameter (At turned off part, or Over threads) **1 3/4"**  
 No. of threads per inch **9** Area supported by each stay **96"** Working pressure by Rules **228 LBS.**  
**Tubes:** Material **STEEL** External diameter Plain Stay **3 1/4"** Thickness **8 WG 1/4" 5/16" 3/8"** No. of threads per inch **9**  
 Pitch of tubes **4 1/2" x 4 3/8"** Working pressure by Rules **210 LBS.** Manhole compensation: Size of opening in shell plate **12" x 16"** Section of compensating ring **FLANGED** No. of rivets and diameter of rivet holes **✓**  
 Outer row rivet pitch at ends **✓** Depth of flange if manhole flanged **3 15/16"** Steam Dome: Material **NONE**  
 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 of 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 **NONE**

Manufacturers of Tubes 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 **✓** 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 **YES**

The foregoing is a correct description,  
**FOR GEORGE CLARK LIMITED**

*Sheddell*

Manufacturer.

Dates of Survey During progress of work in shops - - - **Please see Machinery Rpt.** Are the approved plans of boiler and superheater forwarded herewith **✓**  
while building During erection on board vessel - - - Total No. of visits

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

*These boilers have been built under Special Survey & the materials & workmanship are good. The boilers were tested by hydraulic pressure & satisfactorily fitted in the vessel. The safety valves were adjusted under steam. For notation see machinery report.*

Survey Fee ... .. £ **Charged on Machinery Report** When applied for, 192  
 Travelling Expenses (if any) £ When received, 192

*Sheddell*

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 4 MAY 1928

Committee's Minute

Assigned

*See M.R. rpt. attached*



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