

REPORT ON BOILERS.

No. 29709

Received at London Office

28 APR 1928

27 APR 1928

Date of writing Report

192

When handed in at Local Office

192

Port of *Sunderland*No. in Survey held at
eg. Book.*Sunderland*

Date, First Survey

Last Survey *24 Apr 1928*

(Number of Visits)

Gross *4223*

Tons

Net *2535*

10058 on the

S.S. "BARBARA MARIE"

Master

Built at *Sunderland*By whom built *H. 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. muth. 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 1/4"*Are the shell plates welded or flanged *No*

Description of riveting: circ. seams

long. seams *T.R. D.B.S.*

Diameter of rivet holes in

circ. seams *F 1 3/8" A 1 1/2"*long. seams *1 1/4"*

Pitch of rivets

end *3 1/2"*inter. *3 5/8"*plate *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 *2 1/2"*inner *1 1/2"*No. and Description of Furnaces in each Boiler *3 C.F. Feightons*Material *Steel*Tensile strength *26 to 30 TONS*Smallest outside diameter *3'-5 1/8"*

Length of plain part

top *—*bottom *—*

Thickness of plates

crown *1 1/2"*bottom *1 1/2"*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 1/8"*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 *—*Tensile strength *26 to 30 TONS*

Thickness

front *1 1/8"*back *1 1/4"*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 1/8"*Pitch of stays at wide water space *14 1/4" 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 1/2"*Over threads *2 7/8"*No. of threads per inch *6*Area supported by each stay *430 sq in.*Working pressure by Rules *196 LBS.*Screw stays: Material *STEEL*Tensile strength *26 to 30 TONS*

Diameter

At turned off part, *1 5/8"*Over threads *1 1/8"*No. of threads per inch *9*Area supported by each stay *70 sq in.*

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Working pressure by Rules 216 LBS. Are the stays drilled at the outer ends No Margin stays: Diameter At turned off part, 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 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 1/8" 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

Manufacturer.

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

Please see Machinery Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

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
Travelling Expenses (if any) £ ✓

When applied for, 192
When received, 192

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 4 MAY 1928

Assigned

See Rpt. attached



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