

REPORT ON BOILERS.

No. 110700

Received at London Office MAY 4 1938

Date of writing Report 28th April 1938 When handed in at Local Office 29 APR 1938 Port of LIVERPOOL

No. in Survey held at Lytham Date, First Survey 6th March 1936 Last Survey 19th April 1938

7401. on the SS BROOMFIELD (Number of Visits 21.) Tons {Gross 659.98 Net 273.66}

Master Built at Lytham By whom built Lytham S.B. & E. Co. Ld. Yard No. 841 When built 1938.

Engines made at Lytham By whom made Lytham S.B. & E. Co. Ld. Engine No. 535 When made 1938

Boilers made at do By whom made do Boiler No. 530 When made 1938

Nominal Horse Power 105. Owners Zillah Shipping & Carrying Co. Ld. (Mngs. W.A. Savage Ld.) Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Belvideres Ld. Glasgow. (Letter for Record 5)

Total Heating Surface of Boilers 1637 sq. ft. Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers One single ended multitubular cylindrical Working Pressure 200 lb sq. in.

Tested by hydraulic pressure to 350 lb Date of test 28.9.37. No. of Certificate 6. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 37.7 sq. ft. No. and Description of safety valves to each boiler Grants' spring loaded one pair, each 2 1/2" dia.

Area of each set of valves per boiler {per Rule 9.53 sq. inches as fitted 9.82 sq. inches} Pressure to which they are adjusted 200 lb. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes 7 feet to bunkers

Smallest distance between boilers or uptakes and bunkers or woodwork No woodwork Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating No tank 12" to top of open floor Is the bottom of the boiler insulated No

Largest internal dia. of boilers 12'-7 13/16" Length 11'-0" mean Shell plates: Material Steel Tensile strength 30/34.

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. zigzag inter none}

Long. seams TR. DBS. Diameter of rivet holes in {circ. seams 1 3/16" long. seams 1 3/16" Pitch of rivets {3.7" 8 1/8"}

Percentage of strength of circ. end seams {plate 68. rivets 48.7.} Percentage of strength of circ. intermediate seam {plate 85.4. rivets 89.5. combined 88.4.} Working pressure of shell by Rules 202 lb sq. in.

Thickness of butt straps {outer 5 3/64" inner 6 1/64" No. and Description of Furnaces in each Boiler Two Deighton type corrugated.

Material Steel Tensile strength 26/30 Smallest outside diameter 45 1/16"

Length of plain part {top 17'-7 1/2" between tube plates bottom tube plates} Thickness of plates {crown 21/32" bottom}

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 213 lb sq. in.

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 3/32" Pitch of stays 18 1/4" x 17 1/2"

How are stays secured Nuts & loose washers. Working pressure by Rules 204 lb sq. in.

Tube plates: Material {front Steel back " Tensile strength {26/30. Thickness {7/8" 23/32"}

Mean pitch of stay tubes in nests 7 1/2" x 7 1/2" Pitch across wide water spaces 13 1/2" Working pressure {front 220 lb sq. in. back 245 lb sq. in.}

Girders to combustion chamber tops: Material Steel Tensile strength 28/32. Depth and thickness of girder

at centre 7 3/4" x 27 1/2" Length as per Rule 30 3/32" Distance apart 9 1/2" No. and pitch of stays

in each Two 9 1/2" Working pressure by Rules 203 lb sq. in. Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 23/32" Back 1 1/16" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 9 1/2" x 9" Back 9" x 9" Top 9 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 212 lb sq. in. Front plate at bottom: Material Steel Tensile strength 26/30.

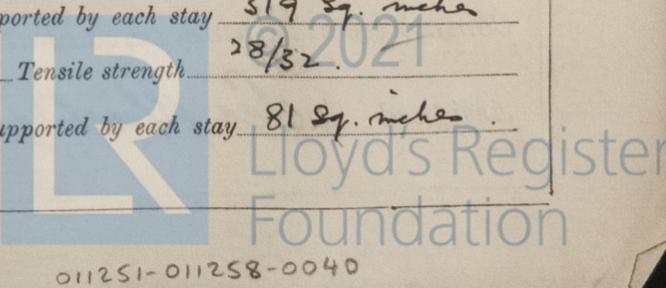
Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 Thickness 7/8"

Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over nuts.

Working Pressure 237 lb sq. in. Main stays: Material Steel Tensile strength 28/32.

Diameter {At body of stay, 3" No. of threads per inch 6. Area supported by each stay 319 sq. inches or Over threads. Working pressure by Rules 210 lb sq. in. Screw stays: Material Steel Tensile strength 28/32.

Diameter {At turned off part, 1 3/4" No. of threads per inch 9. Area supported by each stay 81 sq. inches or Over threads.



Working pressure by Rules 224 lb sq Are the stays drilled at the outer ends No Margin stays: Diameter At turned off part, 1 7/8"
 No. of threads per inch 9 Area supported by each stay 101 sq. inches Working pressure by Rules 211 lb sq
 Tubes: Material lap welded steel External diameter Plain 2 1/2" Thickness 9 LSG No. of threads per inch 9
Stay 2 1/2" 52 @ 5/16" 26 @ 3/8" 12 @ 7/16"
 Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 230 plain 214 stay Manhole compensation: Size of opening
 shell plate 16" x 20" Section of compensating ring 1 1/8" No. of rivets and diameter of rivet holes 36 @ 1 3/16"
 Outer row rivet pitch at ends 7 3/4" Depth of flange if manhole flanged 3" Steam Dome: Material
 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
 stays Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and
 of rivets in outer row in dome connection to shell None

Type of Superheater Manufacturers of None
 Number of elements Material of tubes Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off
 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
 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 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
 THE LYTHAM SHIPBUILDING and
 ENGINEERING WORKS
 R. TRIANTHALS
 Manufacture

Dates of Survey while building 1936. Mar. 3. Apr. 4. May. 19. July 17. Aug. 4. 27. Sept 16. Oct 1. Dec 3.
1937. Feb. 12. Mar. 2. 19. April 9. June 17. Aug 3. Sept 20. 28.
1938. Jan. 1. Feb. 9. 23. Apr. 19. Total No. of visits 21
 Are the approved plans of boiler and superheater forwarded herewith E. 4. 3. 34
 (If not state date of approval.)

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "BRACKENFIELD" Lr. Rpt. No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 This boiler has been constructed under Special Survey in accordance with the approved plan, Secretary's letter and the Rules for Engines & Boilers. The materials and workmanship are satisfactory and the materials have been tested under the supervision of the Society's Surveyors. The boiler has been efficiently fitted on board, examined under working conditions and the safety valves adjusted under steam to the working pressure.
 In my opinion this vessel is eligible to be classed in the Register Books with notation of +LMC 4.38. 158. 200LBS. OG.
 Millsheets in respect of the materials were forwarded with Lr. Rpt No. 1099/5/38. Brackenfild

Survey Fee £ See Mach. report When applied for, 19
 Travelling Expenses (if any) £ report When received, 19

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

Committee's Minute LIVERPOOL 3 MAY 1938

Assigned See Mach. rpt.

G. L. R.

