

REPORT ON BOILERS.

No. 4484 D

15 JUL 1925

Received at London Office

Writing Report 4th July 1925 When handed in at Local Office 6.7.1925 Port of Glasgow
 in Survey held at Blydebank Date, First Survey 12.5.24 Last Survey 3rd July 1925
 Book. 2 Single Ended Boilers for S.S. "Alaunia" (Number of Visits 7) Tons { Gross 14030
 Net 8448
 on the Blydebank Built at Blydebank By whom built John Brown & Co Yard No. 495 When built 1925
 By whom made John Brown & Co Engine No. 495 When made 1925
 By whom made John Brown & Co Boiler No. 495 When made 1925
 Owners Cunard S.S. Co. Port belonging to Liverpool
 Final Horse Power

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Sons Ltd (Letter for Record S. (7))
 Heating Surface of Boilers 6480.85 sq ft Is forced draught fitted yes Coal or Oil fired Oil
 and Description of Boilers 2 Multitubular Working Pressure 220
 tested by hydraulic pressure to 385 Date of test 29.12.24 No. of Certificate 16691 Can each boiler be worked separately yes
 Area of Firegrate in each Boiler oil fuel No. and Description of safety valves to each boiler 2 Spring loaded
 Area of each set of valves per boiler { per Rule 20 sq ft as fitted 25.2 sq ft Pressure to which they are adjusted 225 Are they fitted with easing gear yes
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler none
 Smallest distance between boilers or uptakes and bunkers or woodwork Well clear Is oil fuel carried in the double bottom under boilers yes
 Smallest distance between shell of boiler and tank top plating 19" Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 17'-6" Length 11'-6" Shell plates: Material 8 Tensile strength 30-34
 Thickness 1 2/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end A.R.
 { long. seams 1 2/32" Pitch of rivets { 3.95"
 { 10.5"
 g. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 2/32" { plate none
 { long. seams 1 2/32" { rivets
 Percentage of strength of circ. end seams { plate 58.0 Percentage of strength of circ. intermediate seam { plate none
 { rivets 50.5 Working pressure of shell by Rules 221
 Percentage of strength of longitudinal joint { plate 94.2 { rivets 90.3 { combined 86.2
 Thickness of butt straps { outer 1 3/32" No. and Description of Furnaces in each Boiler 4. Iron
 { inner 1 5/32" Tensile strength 26-30 Smallest outside diameter 45 5/8"
 Material 8 Description of longitudinal joint weld
 Length of plain part { top ✓ Thickness of plates { crown 1 1/16" Working pressure of furnace by Rules 221
 { bottom ✓ Dimensions of stiffening rings on furnace or c.c. bottom ✓ Thickness 1 1/4" Pitch of stays 18 x 17 5/8"
 End plates in steam space: Material 8 Tensile strength 26-30 Working pressure by Rules 230
 How are stays secured J.N. Tensile strength { 26-30 Thickness { 1 5/16"
 Tube plates: Material { front 8 { back 8 Working pressure { front 313
 { back 8 Pitch across wide water spaces 13 3/4" Working pressure { back 319
 Clean pitch of stay tubes in nests 10" Tensile strength 26-32 Depth and thickness of girder
 Orders to combustion chamber tops: Material 8 Distance apart 8" No. and pitch of stays
 At centre 9" x 1 1/2" Length as per Rule 30 11/32" Combustion chamber plates: Material 8
 At each 2 x 9 7/8" Working pressure by Rules 290 Back 23/32" Top 23/32" Bottom 13/16"
 Tensile strength 26-30 Thickness: Sides 23/32" Are stays fitted with nuts or riveted over nuts
 Pitch of stays to ditto: Sides 8 x 9 7/8" Back 10 x 7 7/8" Top 8 x 9 7/8" Tensile strength 26-30
 Working pressure by Rules 224 Front plate at bottom: Material 8 Tensile strength 26-30 Thickness 29/32"
 Thickness 1" Lower back plate: Material 8 Are stays fitted with nuts or riveted over nuts
 Pitch of stays at wide water space 13 3/4" Tensile strength 28/32
 Working Pressure 360 Main stays: Material 8 Area supported by each stay 317
 Diameter { At body of stay 3" No. of threads per inch 6 Tensile strength 21 1/2 t
 { Over threads 3 1/4" Screw stays: Material iron Area supported by each stay 79 sq"
 Working pressure by Rules 253 No. of threads per inch 9
 Diameter { At turned off part 1 3/4"

Working pressure by Rules 226 Are the stays drilled at the outer ends 10 Margin stays: Diameter { At turned off part, 1 7/8" or Over threads
No. of threads per inch 9 Area supported by each stay 93 sq in Working pressure by Rules 226
Tubes: Material iron External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { 8 L.S.C. 3/8", 5/16", 1/4" No. of threads per inch 9
Pitch of tubes 4" x 4" Working pressure by Rules 275 Manhole compensation: Size of opening
shell plate 21" x 17" Section of compensating ring 40" x 36 1/2" x 1 3/8" No. of rivets and diameter of rivet holes 40 - 1 1/2"
Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 4 1/2" Steam Dome: Material iron
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

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
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
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure
tubes castings and after assembly in place Are drain cocks or valves
to free the superheater from water where necessary

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes
John Brown & Company, Limited
The foregoing is a correct description,
Attest
Secretary

Dates of Survey { During progress of work in shops - - See accompanying Machinery Report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
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 in accordance with the approved plan and the Society's Rules, and requirements, the material and workmanship are good, and they have been securely fitted on board.

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

Jas. Cairns
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 14 JUL 1925

Assigned See accompanying machinery report.