

Rpt. 5a.

Newcastle-on-Tyne

No. 96688

REPORT ON BOILERS.

No. 16401

SEP -6 1938

Received at London Office

Date of writing Report 10th September 1938 When handed in at Local Office 3rd September 1938 Port of MiddlesbroughNo. in Survey held at Stockton Date First Survey 5th April Last Survey 30th August 1938Reg. Book. 72531 on the SS 'CLEARTON' (Number of Visits 11) Gross 5219 Tons Net 3209Master J. W. J. Built at Stockton By whom built Richardson Duckworth & Co. Ltd. Card No. 1919-9 When built 1919-9Engines made at Stockton By whom made Blair & Co. Ltd. Engine No. 1919 When made 1919Boilers made at New Donkey By whom made Stockton C.B. & Riley Boilers Ltd. Boiler No. 6320 When made 1938Nominal Horse Power 100 Owners R. Chapman & Son Port belonging to Newcastle

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd & Steel Company of Scotland (Letter for Record COAL)Total Heating Surface of Boilers 1370 Is forced draught fitted No Working Pressure 100No. and Description of Boilers 1 D.B.Tested by hydraulic pressure to 200 Date of test 30.8.38 No. of Certificate 6950 Can each boiler be worked separately YesArea of Firegrate in each Boiler 39 No. and Description of safety valves to each boiler 2 SPRING LOADEDArea of each set of valves per boiler per Rule 14.9 Pressure to which they are adjusted 100 lbs Are they fitted with easing gear YESIn case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No BOILER IN T.W. D.K.Smallest distance between boilers or uptakes and bunkers or woodwork 10" Is oil fuel carried in the double bottom under boilers YesSmallest distance between shell of boiler and tank top plating 12'-0" Is the bottom of the boiler insulated YesLargest internal dia. of boilers 12'-0" Length 10'-0" Shell plates: Material Steel Tensile strength 29/33Thickness 19/32 Are the shell plates welded or flanged No Description of riveting: circ. seams DR. inter. DR.long. seams DR. D.B.S. Diameter of rivet holes in circ. seams 5/16" Pitch of rivets 4 7/16"Percentage of strength of circ. end seams plate 68.7% rivets 46.07% Percentage of strength of circ. intermediate seam plate 81.7% rivets 90.3%Percentage of strength of longitudinal joint combined 92.5% Working pressure of shell by Rules 101 lbs.Thickness of butt straps outer 1/2" inner 3/8" No. and Description of Furnaces in each Boiler 2 pf.Material Steel Tensile strength 26-30 Smallest outside diameter 3'-7 1/2"Length of plain part top 6'-7 3/8" bottom 6'-1" Thickness of plates crown 2 1/32" bottom 2 1/32" Description of longitudinal joint weldDimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 128.8End plates in steam space: Material Steel Tensile strength 26-30 Thickness 7/16" Pitch of stays 16" x 15 3/4"How are stays secured D.N. & W. Working pressure by Rules 102 lbs.Tube plates: Material Steel Tensile strength 26-30 Thickness 5/8"Mean pitch of stay tubes in nests 10 3/8" Pitch across wide water spaces 14 1/4" Working pressure front 262 lbs back 240 lbsGirders to combustion chamber tops: Material Steel Tensile strength 28-32 Depth and thickness of girderat centre 6" x 1 1/4" Length as per Rule 28" Distance apart 8 1/2" No. and pitch of staysin each 228" Working pressure by Rules 112 lbs. Combustion chamber plates: Material S.Tensile strength 26-30 Thickness: Sides 2 1/32" Back 9/16" Top 2 1/32" Bottom 2 1/32"Pitch of stays to ditto: Sides 10" x 8" Back 9 3/4" x 10 1/2" Top 8" x 8 1/2" Are stays fitted with nuts or riveted over nutsWorking pressure by Rules 106 Front plate at bottom: Material S. Tensile strength 26-30Thickness 7/16" Lower back plate: Material S. Tensile strength 26-30 Thickness 7/16"Pitch of stays at wide water space 14 1/2" x 9 1/4" Are stays fitted with nuts or riveted over nutsWorking Pressure 127 lbs. Main stays: Material S. Tensile strength 28-32Diameter At body of stay, 2" No. of threads per inch 6 Area supported by each stay 232 D"Working pressure by Rules 112 lbs. Screw stays: Material S. Tensile strength 26-30Diameter At turned off part, 1 3/8" No. of threads per inch 9 Area supported by each stay 102 D"

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Working pressure by Rules 100 lbs. Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/2"
No. of threads per inch 9 Area supported by each stay 108 sq" Working pressure by Rules 116 lbs
Tubes: Material Superheater External diameter { Plain 3 1/4" Stay 3" Thickness { 9/16" 5/16" No. of threads per inch 9
Pitch of tubes 1 1/2" x 4 1/2" Working pressure by Rules Stay tubes 172 lbs Manhole compensation: Size of opening in
shell plate 20" x 16" Section of compensating ring 7" x 3/4" No. of rivets and diameter of rivet holes 40 @ 1 1/16"
Outer row rivet pitch at ends 6 3/4" Depth of flange if manhole flanged 1 1/2" Steam Dome: Material 1022
Tensile strength 60,000 Thickness of shell 1/2" Description of longitudinal joint Butt joint
Diameter of rivet holes 1/8" Pitch of rivets 1 1/2" Percentage of strength of joint { Plate 100 Rivets 100
Internal diameter 20" Working pressure by Rules 116 lbs Thickness of crown 1/2" No. and diameter of
stays 10 Inner radius of crown 10" Working pressure by Rules 116 lbs
How connected to shell Direct Size of doubling plate under dome 10" x 16" Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 1 1/2" x 1 1/2"

Type of Superheater Horizontal Manufacturers of { Tubes Stoke Newington Chemical Engineers & Riley Boilers Ltd. Steel castings Stoke Newington Chemical Engineers & Riley Boilers Ltd.
Number of elements 10 Material of tubes Steel Internal diameter and thickness of tubes 3 1/4" x 1/8"
Material of headers Steel Tensile strength 60,000 Thickness 1/8" Can the superheater be shut off and
the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes
Area of each safety valve 10 sq in Are the safety valves fitted with easing gear Yes Working pressure as per
Rules 116 lbs Pressure to which the safety valves are adjusted 116 lbs Hydraulic test pressure: 172 lbs
tubes 100 lbs, castings 100 lbs and after assembly in place 100 lbs Are drain cocks or valves fitted
to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

For and on behalf of
STOKES NEWINGTON CHEMICAL ENGINEERS & RILEY BOILERS LTD.
The foregoing is a correct description,
G. H. Riley Manufacturer.
DIRECTOR

Dates of Survey { During progress of work in shops 1938 Are the approved plans of boiler and superheater forwarded herewith 9-9-37
while building { During erection on board vessel 1938 (If not state date of approval.)
Total No. of visits 11

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. SS 'PETERION' Mkt Rpt 16310

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been made under Special Survey in accordance with the approved plan & Requirements of the Rules. & was found sound & tight under 200 lbs hydraulic pressure.

The materials & workmanship are good.
The boiler is to be forwarded to Wallsend on Tyne to be fitted on board.

This boiler has now been satisfactorily fitted on board the above vessel, its safety valves adjusted to 100 lbs & an accumulation test as per Rule carried out & found in order.

The machinery of this vessel, in my opinion, is eligible to remain as classed with notation of + N.D.B 9.38. in the Register Book.

G. Nixon 17/9/38

Survey Fee £ 9 : 3 : 0 When applied for 5th Sept 1938
Travelling Expenses (if any) £ When received 23/11 1938

RETAIN

Committee's Minute

Assigned

See NWC 96688

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation

For boiler plan see Mkt Rpt. No 16407 on
SS 'Peterion'