

REPORT ON BOILERS.

Std. No. 29327
No. 12040

Received at London Office 16 AUG 1924

Date of writing Report 192 When handed in at Local Office 13.8.24 192 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey 2nd July Last Survey 5th August 1924

1306 on the S.S. "USWORTH" (Number of Visits 4) Gross 3935 Tons Net 2189

Master Built at Sunderland By whom built J. Blumer & Co Yard No. 257 When built 1926.

Engines made at Sunderland By whom made John Dickinson & Son Ltd Engine No. 873 When made 1926.

Boilers made at Stockton By whom made Messrs Riley Bros Ltd Boiler No. 5546 When made 1924

Nominal Horse Power 301 Owners Dalglisch & Son Shipg Co Ltd Port belonging to Newcastle.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel South Durham Steel Co (Middlesbrough) & Steel Co of Scotland Ltd (Letter for Record 51)

Total Heating Surface of Boilers 880 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One single ended Working Pressure 120

Tested by hydraulic pressure to 230 lbs Date of test 7.8.24 No. of Certificate 6382 Can each boiler be worked separately

Area of Firegrate in each Boiler 30 sq ft No. and Description of safety valves to each boiler Two Spring loaded

Area of each set of valves per boiler {per Rule 8.149 sq ins as fitted 9.815 sq ins. Pressure to which they are adjusted 125 Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No. Non-return Stop Valve fitted

Smallest distance between boilers or uptakes and bunkers or woodwork 7 ft Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Fitted in Tween Deck Is the bottom of the boiler insulated No

Largest internal dia. of boilers 10'-0" Length 10'-0" Shell plates: Material steel Tensile strength 28-32

Thickness 5/8" Are the shell plates welded or flanged no Description of riveting: circ. seams {end 2 Riv lap inter. 3" + 6"

Long. seams 2 Butt - 2 Riveted Diameter of rivet holes in {circ. seams 15/16 long. seams 17/16 Pitch of rivets 4 1/2"

Percentage of strength of circ. end seams {plate 68.66 rivets 45.00 Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 82.00 rivets 85.2 combined 92.4 Working pressure of shell by Rules 125 lbs

Thickness of butt straps {outer 8 3/4 x 17/32 inner 8 3/4 x 21/32 No. and Description of Furnaces in each Boiler Two plain

Material steel Tensile strength 26-30 Smallest outside diameter 38"

Length of plain part {top 75 1/2" bottom 103" Thickness of plates {crown 19/32 bottom 21/32 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 123 lbs

End plates in steam space: Material steel Tensile strength 26-30 Thickness 7/8" Pitch of stays 16 } x { 16 1/2 } x { 15

How are stays secured nuts & 8 1/2 x 5/8 brass washers Working pressure by Rules 124 lbs

Tube plates: Material {front steel back steel Tensile strength {26-30 Thickness {7/8 9/8"

Lean pitch of stay tubes in nests 10 5/16 Pitch across wide water spaces 14" x 8 1/2" Working pressure {front 141 lbs back 132 "

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

centre 6 1/2 x 14" Length as per Rule 28" Distance apart 9" No. and pitch of stays

each 2 @ 8 1/2" Working pressure by Rules 127 lbs Combustion chamber plates: Material steel

Tensile strength 26-30 Thickness: Sides 17/32 Back 17/32 Top 17/32 Bottom 13/16

Pitch of stays to ditto: Sides 9 1/4 x 8 1/2 Back 10 x 7 3/4 Top 9 x 8 1/2 Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 120 lbs 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 14" x 7 3/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 141 lbs Main stays: Material steel Tensile strength 28-32

Diameter {At body of stay, 2 3/8 No. of threads per inch 6 Area supported by each stay 301.5

{Over threads 2 3/8 Screw stays: Material steel Tensile strength 26-30

Working pressure by Rules 130 Diameter {At turned off part, 1 3/8 No. of threads per inch 9 Area supported by each stay 77.5

{Over threads 1 3/8

Working pressure by Rules 130 Are the stays drilled at the outer ends no 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 88 Working pressure by Rules 142
 Tubes: Material iron External diameter { Plain 3 1/4 Stay 3 } Thickness N° 10 - 45.9 No. of threads per inch 9
 Pitch of tubes 4 3/8 x 4 1/2 Working pressure by Rules 130 1/4 Manhole compensation: Size of opening in shell plate 20 x 16 Section of compensating ring 7 1/4 x 3/4 x 1/2 No. of rivets and diameter of rivet holes 36 @ 1 1/2
 Outer row rivet pitch at ends 6 1/2 Depth of flange if manhole flanged — 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 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 — 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 8 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
 Area of each safety valve 15 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 —

FOR
RILEY BROS. (BOILERMAKERS) LIMITED.
 The foregoing is a correct description,
A. H. Shields SECRETARY, Manufacturer.

Dates of Survey { During progress of work in shops -- } 1924 / June 21, 22, 29, Aug. 14 Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)
 { During erection on board vessel -- }
 Total No. of visits 4

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results

It has now been fitted on board the vessel, and the safety valves adjusted under steam.

For notation see Machinery Report.

Survey Fee ... £ 5:17:00 When applied for 192
 Travelling Expenses (if any) £ — When received 193

W. Morrison *A. T. Griffiths*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 7 DEC 1926

Assigned See Sd A. E. No 29327



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