

REPORT ON BOILERS.

No. 91945

13 NOV 1934

Received at London Office

Date of writing Report

19

When handed in at Local Office

12 NOV 1934

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book

Survey held at South Shields

Date, First Survey Apr 5th (1933)

Last Survey Nov 8 1934

(Number of Visits 24)

Gross 4650.79
Net 2731.62

91453 on the S.S. TYNEBANK

Master Built at S. Shields By whom built J. Readhead & Sons Ltd No. 506 When built 1934

Engines made at S. Shields By whom made J. Readhead & Sons Ltd Engine No. 506 When made 1934

Boilers made at " " By whom made " " " Boiler No. 506 When made 1934

Nominal Horse Power * Owners Bank Line Ltd Port belonging to Glasgow

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 5486 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 2 Single ended multitubular Working Pressure 220 lbs sq in

Tested by hydraulic pressure to 380 lbs sq in Date of test 5-25-8-33 No. of Certificate S-N 602 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 60 sq ft No. and Description of safety valves to each boiler 2 Double spring loaded (float) H.L.

Area of each set of valves per boiler per Rule 11.7 sq in as fitted 11.88 sq in Pressure to which they are adjusted 220 lbs sq in Are they fitted with easing gear Yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork 1-10 Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 2-2 Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15-6 Length 11-9 Shell plates: Material Steel Tensile strength 29-33 lbs sq in

Thickness 1 1/2 Are the shell plates welded or flanged Yes Description of riveting: circ. seams end D.R.L.V. inter. Yes

long. seams T.R.D.B.S.V. Diameter of rivet holes in circ. seams 1 1/2 long. seams 1 1/2 Pitch of rivets 4 1/4 10

Percentage of strength of circ. end seams plate 64.8 rivets 44.0 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.0 rivets 87.6 combined 87.5 Working pressure of shell by Rules 221.7 lbs sq in

Thickness of butt straps outer 1 3/16 inner 1 5/16 No. and Description of Furnaces in each Boiler 3 Deighton Type

Material Steel Tensile strength 26-30 lbs sq in Smallest outside diameter 3-9 1/8

Length of plain part top bottom Thickness of plates crown 1 1/16 bottom 1/16 Description of longitudinal joint

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 223 lbs sq in

End plates in steam space: Material Steel Tensile strength 26-30 lbs sq in Thickness 1 5/16 Pitch of stays 20 1/2 x 20 1/4

How are stays secured Double nuts & washers outside (12 1/2 dia x 1) Working pressure by Rules 220.9 lbs sq in

Tube plates: Material front back Steel Tensile strength 26-30 lbs sq in Thickness 1 3/16 1 5/16

Mean pitch of stay tubes in nests 9 13/16 Pitch across wide water spaces 14 Working pressure front 224 lbs sq in back 244 lbs sq in

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 lbs sq in Depth and thickness of girder

at centre 8 1/2 x 1 3/4 Length as per Rule 2-7 1/2 Distance apart 9 7/8 No. and pitch of stays

in each 229 Working pressure by Rules 222 lbs sq in Combustion chamber plates: Material Steel

Tensile strength 26-30 lbs sq in Thickness: Sides 3/4 Back 3/4 Top 3/4 Bottom 7/8

Pitch of stays to ditto: Sides 9 1/2 x 9 3/8 Back 9 15/16 x 9 Top 9 x 9 7/8 Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 220.5 lbs sq in Front plate at bottom: Material Steel Tensile strength 26-30 lbs sq in

Thickness 1 5/16 Lower back plate: Material Steel Tensile strength 26-30 lbs sq in Thickness 7/8

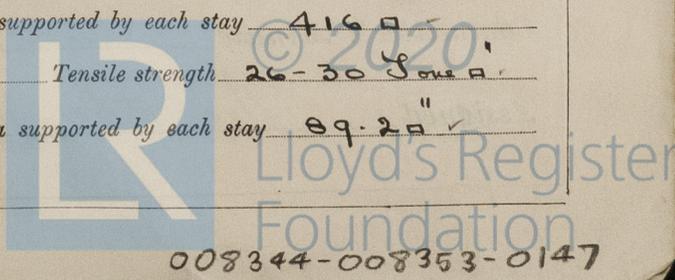
Pitch of stays at wide water space 14 x 9 Are stays fitted with nuts or riveted over Nuts

Working Pressure 226 lbs sq in Main stays: Material Steel Tensile strength 28-32 lbs sq in

Diameter At body of stay, or Over threads 3 1/2 dia No. of threads per inch 6 Area supported by each stay 416 sq in

Working pressure by Rules 227 lbs sq in Screw stays: Material Steel Tensile strength 26-30 lbs sq in

Diameter At turned off part, or Over threads 1 7/8 dia No. of threads per inch 9 Area supported by each stay 89.2 sq in



Working pressure by Rules $229 \text{ lbs } \square$ Are the stays drilled at the outer ends Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 2 \text{ " dia} \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch 9 " Area supported by each stay 109 " Working pressure by Rules $229 \text{ lbs } \square$

Tubes: Material *Steel* External diameter $\left\{ \begin{array}{l} \text{Plain } 3 \text{ " dia} \\ \text{Stay} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{S.L.S.G. } 5/16 \text{ " } 3/8 \text{ " } \\ \text{No. of threads per inch } 9 \text{ "} \end{array} \right.$

Pitch of tubes $11 \frac{1}{2} \text{ " } \times 8 \frac{1}{2} \text{ "}$ Working pressure by Rules $228 \text{ lbs } \square$ Manhole compensation: Size of opening in shell plate $16 \times 12 \text{ "}$ Section of compensating ring $8 \times 1 \frac{1}{2} \text{ "}$ No. of rivets and diameter of rivet holes $20 - 1 \frac{1}{2} \text{ " dia}$

Outer row rivet pitch at ends 10 " Depth of flange if manhole flanged Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown Working pressure by Rules

of rivets in outer row in dome connection to shell Size of doubling plate under dome Diameter of rivet holes and pitch

Type of Superheater *The Superheater Co Ltd* Manufacturers of $\left\{ \begin{array}{l} \text{Tubes } \text{See approved plans \& certificates} \\ \text{Steel castings } \text{of tests.} \end{array} \right.$

Number of elements Material of tubes *S.F. Steel* Internal diameter and thickness of tubes $15 \frac{1}{4} \text{ " } 3 \frac{1}{4} \text{ "}$

Material of headers *Steel Forging* Tensile strength Thickness Can the superheater be shut off and the boiler be worked separately

Area of each safety valve 3.54 " Are the safety valves fitted with easing gear Working pressure as per Rules $220 \text{ lbs } \square$ Pressure to which the safety valves are adjusted $225 \text{ lbs } \square$ Hydraulic test pressure: tubes $1000 \text{ lbs } \square$, castings $660 \text{ lbs } \square$ and after assembly in place $440 \text{ lbs } \square$ 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

The foregoing is a correct description,
J. H. Matthews
 Chairman & Managing Director

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops } \text{Apr 5-6-27-28 Aug 2-4-10-17-22-31 June 8-29} \\ \text{while building } \text{Aug 1-4-11-15-23-25 Oct 11.} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith

$\left\{ \begin{array}{l} \text{During erection on board vessel } \text{Aug 24 Oct 1-9-20 Nov 8-9} \end{array} \right.$ Total No. of visits 24

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The boilers have been built under special survey in accordance with rule requirements & approved plan. Materials & workmanship are good. Hydraulic test satisfactory. They have been efficiently installed & fixed in vessel examined under steam & the safety valves adjusted to the approved pressure

Survey Fee £ : : When applied for, 10

Travelling Expenses (if any) £ *See under rev* : : When received, 10

J. H. Matthews
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *TUE. 20 NOV 1934*

Assigned *See other hwc. J.E Rpt*

