

REPORT ON BOILERS.

No. 29158

Date of writing Report

192

When handed in at Local Office

23 OCT 1925

Port of

Received at London Office

24 OCT 1925

No. in
Reg. Book.

Survey held at

Sunderland

Date, First Survey

Last Survey

Oct 20 1925

40225 on the new steel S.S. NEWTON BEECH

(Number of Visits)

Tons

Gross

4644

Net

2811

Master Built at Sunderland By whom built Wm Pickersgill & Co Ltd Yard No. 215 When built 1925

Engines made at Sunderland By whom made N. E. Marine Eng. Co Ltd Engine No. 2611 When made 1925

Boilers made at Sunderland By whom made N. E. Marine Eng. Co Ltd Boiler No. 2611 When made 1925

Nominal Horse Power 346. Owners Tyne-side Line (1920) Ltd Port belonging to Newcastle

J. Ridley Son & Sully Mgrs

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel Messrs William Beardmore & Co - Plates Messrs David Colville & Sons - stay bars (Letter for Record (S))

Total Heating Surface of Boilers 5466 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers 3- Single ended main type Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 25-8-25 No. of Certificate 3925 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 482 sq ft No. and Description of safety valves to each boiler Two - Direct spring loaded

Area of each set of valves per boiler per Rule 11.68 sq ft as fitted 14.12 sq ft Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Donkey Boilers not fitted

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 3'-0" Is the bottom of the boiler insulated No

Largest internal dia. of boilers 13'-6 3/4" Length 11'-0" Shell plates: Material Steel Tensile strength 28-32 tons

Thickness 1/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. Lark inter.

long. seams T.R.D.B.S Diameter of rivet holes in circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets 3" Front 1 1/2" Back 1 1/2"

Percentage of strength of circ. end seams plate 61.4 rivets 51.4 Percentage of strength of circ. intermediate seam plate 86.1 rivets 85.81

Percentage of strength of longitudinal joint plate 86.1 rivets 85.81 combined 89.7 Working pressure of shell by Rules 182 lbs

Thickness of butt straps outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3- Deighton

Material Steel Tensile strength 26 to 30 tons Smallest outside diameter 2'-11 5/8"

Length of plain part top 29" bottom 64" Thickness of plates crown 29" bottom 64" Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 184 lbs

End plates in steam space: Material Steel Tensile strength 26 to 30 tons Thickness 1 1/2" Pitch of stays 23 1/2" x 14"

How are stays secured Double nuts and washers Working pressure by Rules 182 lbs

Tube plates: Material front Steel back Steel Tensile strength 26 to 30 tons Thickness 7/8"

Mean pitch of stay tubes in nests 10.5" Pitch across wide water spaces 14 1/2" Working pressure front 183 lbs back 182 lbs

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

at centre 2 @ 8" x 7/8" Length as per Rule 32 1/2" Distance apart 10" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 182 lbs Combustion chamber plates: Material Steel

Tensile strength 26 to 30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 10" x 10" Back 10" x 9 7/8" Top 10" x 10" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 181.5 lbs Front plate at bottom: Material Steel Tensile strength 26 to 30 tons

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

Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 188 lbs Main stays: Material Steel Tensile strength 28 to 32 tons

Diameter At body of stay, 2 7/8" No. of threads per inch 6 Area supported by each stay 399.5 sq in

Working pressure by Rules 180 lbs Screw stays: Material Steel Tensile strength 26 to 30 tons

Diameter At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 100 sq in

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Working pressure by Rules 182 lb Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 1/2" Over threads 1 1/2"

No. of threads per inch 9 Area supported by each stay 116 sq Working pressure by Rules 183 lb

Tubes: Material Wooten External diameter { Plain 3 1/2" Thickness { 8 W.G. No. of threads per inch 9 Stay 3 1/2" 1/2" + 5/16" (margin)

Pitch of tubes 4 5/8" x 4 1/2" Working pressure by Rules 215 lb Manhole compensation: Size of opening in 230 lb plain tube

Shell plate 16" x 1/2" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4" 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 of stays ✓

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

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 N. E. Marine

Manufacturers of

Tubes Weldless Steel Tube Co.

Steel castings Headers N. E. Marine, Wallend.

Number of elements 132

Material of tubes Solid drawn steel

Internal diameter and thickness of tubes 1 1/4 m/m 9 2 1/2 m/m

Material of headers Weld steel

Tensile strength 20 to 30 tons

Thickness 1/2" (min)

Can the superheater be shut off and the boiler be worked separately No

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 3.14 sq

Are the safety valves fitted with easing gear Yes

Working pressure as per Rules 180 lb

Pressure to which the safety valves are adjusted 185 lb

Hydraulic test pressure: 1500 lb at 1500 lb

tubes 1500 lb at 1500 lb

Headers 540 lb

(Note) and after assembly in place 400 lb

Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufacturer.

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - }

Please see Machinery Report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Manager

Total No. of visits 1

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

The materials and workmanship are good
The boilers have been constructed under special survey and satisfactorily fixed in the vessel.

Survey Fee £

Travelling Expenses (if any) £

See Machinery Report

When applied for, 192

When received, 192

George Anderson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 30 OCT 1925

Assigned



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