

REPORT ON BOILERS.

No. 17738.

Received at London Office SEP 18 1937

Date of writing Report 13th Sept., 1937 When handed in at Local Office 15th Sept., 1937 Port of West Hartlepool

No. in Survey held at Hartlepool Date, First Survey 31st March, 1937. Last Survey 12th September, 1937.

9404 on the Steel screw steamer "NORTHLEIGH" (Number of Visits 82) Tons { Gross 5450 Net 3200

Built at Sunderland By whom built W. Pickersgill & Sons Ltd Yard No. 237 When built 1937

Engines made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd. Engine No. H.2686 When made 1937

Boilers made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd. Boiler No. H.2686 When made 1937

nominal Horse Power 502 Owners W. J. Tatam Ltd Port belonging to London

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

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

total Heating Surface of Boilers 1655 sq ft Is forced draught fitted Yes Coal or Oil fired coal.

No. and Description of Boilers One, single ended cylindrical type. Working Pressure 220 lbs.

tested by hydraulic pressure to 380 lbs. Date of test 19-7-37 No. of Certificate 3871 Can boiler be worked separately Yes.

Area of Firegrate in each Boiler 43 3/4 sq ft No. and Description of safety valves to each boiler Two, back burn's High lift. 2" Dia

Area of each set of valves per boiler { per Rule 4.6 sq ins as fitted 6.28 sq ins Pressure to which they are adjusted 228 lbs. Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No.

Smallest distance between boilers or uptakes and bunkers or woodwork 7'6" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 2'10 1/2" Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 12'9 1/2" Length 10'6" Shell plates: Material steel Tensile strength 29-33 tons

Thickness 1 1/4" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. Rap. inter. 3 1/2" plate 8 1/2"

g. seams Y.R.D.B.S Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets { 3 1/2" 8 1/2"

Percentage of strength of circ. end seams { plate 64.3 rivets 44.5 Percentage of strength of circ. intermediate seam { plate 85.3 rivets 85.8

Percentage of strength of longitudinal joint { plate 85.8 rivets 87.7 Working pressure of shell by Rules 222 lbs.

Thickness of butt straps { outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler Three Deighton type

Material steel Tensile strength 26-30 tons Smallest outside diameter 2'10 5/16"

Length of plain part { top 17 1/32" bottom 17 1/32" Description of longitudinal joint welded.

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

1 plates in steam space: Material steel Tensile strength 26-30 tons Thickness 15/16" Pitch of stays 15 1/4" x 22"

Are stays secured double nuts Working pressure by Rules 225 lbs.

2 plates: Material { front steel back steel Tensile strength { 26-30 tons Thickness { 29/32" 3/4"

on pitch of stay tubes in nests 8 7/16" Pitch across wide water spaces 13 1/2" Working pressure { front 236 lbs. back 282 lbs.

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

centre 8 1/2" x 1 1/2" Length as per Rule 2'5 7/8" Distance apart 8 1/2" No. and pitch of stays

each 2 @ 9 1/4" Working pressure by Rules 253 lbs. Combustion chamber plates: Material steel

side strength 26-30 tons Thickness: Sides 23/32" Back 21/32" Top 23/32" Bottom 15/16"

h of stays to ditto: Sides 9 1/4" x 8 1/2" Back centre 8 1/2" x 7 1/2" Top 9 1/4" x 8 1/2" Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 230 lbs. Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 29/32" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 7/8"

h of stays at wide water space 14 3/4" x 8" Are stays fitted with nuts or riveted over nuts.

Working Pressure 222 lbs. Main stays: Material steel Tensile strength 28-32 tons

At body of stay, 3 3/8" x 3" No. of threads per inch 6 Area supported by each stay 312.6 sq ins 245 sq ins.

Over threads 274 lbs. Screw stays: Material steel Tensile strength 26-30 tons

At turned off part, 13/4" No. of threads per inch 9 Area supported by each stay { 78.625 sq ins 63.78 sq ins

Over threads Backs 15/8"

Working pressure by Rules 230 1/2 238 1/2 Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, or Over threads 1 7/8"
No. of threads per inch 9 Area supported by each stay 89 sq ins Working pressure by Rules 238 1/2
Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 8 1/16" 3/8" 5/16" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 300 lbs. Manhole compensation: Size of opening in
shell plate 16" x 12" 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 3/4" Steam Dome: Material None.
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 None fitted. Manufacturers of { Tubes Steel forgings 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 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 as per
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:
tubes forgings and 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 22 inclusive for boilers been complied with yes.

The foregoing is a correct description,

For RICHARDSON'S ENGINEERING & Co. LIMITED Manufacturer.
W. E. Mordge

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

Are the approved plans of boiler and superheater forwarded herewith no.
(If not state date of approval.) 27-1-37.

Total No. of visits

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

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

This Boiler has been constructed under Special Survey and in accordance with the approved plan for a working pressure of 220 lbs per sq inch. The materials and workmanship have been found good.
Upon completion the Boiler was tested in the presence of the undersigned with hydraulic pressure 380 lbs per sq inch showed no signs of weakness and was found tight and sound in every respect at that pressure.

Survey Fee ... £ : : } When applied for, 19
Travelling Expenses (if any) £ : : } When received, 19

L. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 1 OCT 1937

Assigned See Sea Line 32195



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