

Received at London Office 31 JAN 1942

Date of writing Report

10

When handed in at Local Office

29/1/1942

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

South Shields

Date, First Survey 24 June 1941.

Last Survey 14 Jan 1942

(Number of Visits

Gross 7043.55
Tons Net 4966.55

6376 on the S.S. EMPIRE SQUIRE

Master Built at S. Shields By whom built J. Readhead Sons Ltd Yard No. 525 When built 1942

Engines made at South Shields By whom made J. Readhead Sons Ltd Engine No. 525 When made 1942

Boilers made at South Shields By whom made J. Readhead Sons Ltd Boiler No. 525 When made 1942

Nominal Horse Power Owners Ministry of War Transport Port belonging to S. Shields

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

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

Total Heating Surface of Boilers 7248 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 3 Single ended multitubular Working Pressure 220 lbs sq in

Tested by hydraulic pressure to 380 lbs sq in Date of test 3-31-10-41 No. of Certificate S-915 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 54.67 sq ft No. and Description of safety valves to each boiler 2 Double spring loaded impulse H.L.

Area of each set of valves per boiler per Rule 6.425 sq ft as fitted 7.94 sq ft 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

Smallest distance between boilers or uptakes and bunkers or woodwork 2-10" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2-0 1/4" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15-0 1/4" Length 11-6" Shell plates: Material S.M. Steel Tensile strength 29-33 Tons sq in

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

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 4.07" 10 3/8"

Percentage of strength of circ. end seams plate 63.1 rivets 46.8 Percentage of strength of circ. intermediate seam plate rivets 85.5

Percentage of strength of longitudinal joint plate rivets 86.0 combined 88.3 Working pressure of shell by Rules As approved

Thickness of butt straps outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 Deighton Type

Material S.M. Steel Tensile strength 26-30 Tons sq in Smallest outside diameter 45 1/2"

Length of plain part top bottom Thickness of plates crown 1 1/2" bottom 1 1/4" Description of longitudinal joint

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

End plates in steam space: Material S.M. Steel Tensile strength 26-30 Tons sq in Thickness 1 3/32" Pitch of stays 20 x 21"

How are stays secured Double nuts Working pressure by Rules

Tube plates: Material front S.M. Steel back S.M. Steel Tensile strength 26-30 Tons sq in Thickness 15 1/16" 25 1/32"

Mean pitch of stay tubes in nests 9 3/4" Pitch across wide water spaces 14" Working pressure front back

Girders to combustion chamber tops: Material S.M. Steel Tensile strength 28-32 Tons sq in Depth and thickness of girder

at centre 10 1/2 x 1 3/8" Length as per Rule 2-9 1/32" Distance apart 9 1/4" No. and pitch of stays

in each 328 Working pressure by Rules Combustion chamber plates: Material S.M. Steel

Tensile strength 26-30 Tons sq in Thickness: Sides 1 1/4" Back 1 1/4" Top 1 1/4" Bottom 1 3/16"

Pitch of stays to ditto: Sides 9 1/4 x 8" Back 9 1/4 x 8" Top 9 1/4 x 8" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules Front plate at bottom: Material S.M. Steel Tensile strength 26-30 Tons sq in

Thickness 15 1/16" Lower back plate: Material S.M. Steel Tensile strength 26-30 Tons sq in Thickness 27 1/32"

Pitch of stays at wide water space 14 x 8" Are stays fitted with nuts or riveted over Nuts

Working Pressure Main stays: Material S.M. Steel Tensile strength 28-32 Tons sq in

Diameter At body of stay, or over threads 3 1/2" No. of threads per inch 6 Area supported by each stay 420 sq in

Working pressure by Rules Screw stays: Material S.M. Steel Tensile strength 26-30 Tons sq in

Diameter At turned off part, or over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 74 sq in

Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, } 1 1/8" ☒
 No. of threads per inch 9 ☒ Area supported by each stay 93 sq. in. ☒
 Tubes: Material Iron ☒ External diameter { Plain 3" ☒ Stay 3" ☒ Thickness { 5/16" ☒ 3/8" ☒ No. of threads per inch 9 ☒
 Pitch of tubes 11 1/4" x 8 1/4" ☒ Working pressure by Rules ☒
 shell plate 16 x 12 ☒ Section of compensating ring ☒ Manhole compensation: Size of opening in ☒
 Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒ No. of rivets and diameter of rivet holes ☒
 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

Number of elements _____ Material of tubes _____ Manufacturers of { Tubes _____ Steel forgings _____ Steel castings _____
 Material of headers _____ Tensile strength _____ Internal diameter and thickness of tubes _____
 the boiler be worked separately _____ Is a safety valve fitted to every part of the superheater which can be shut off and _____ Can the superheater be shut off and _____
 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 _____

FOR JOHN READHEAD & SONS LTD.

The foregoing is a correct description,

[Signature]
MANAGING DIRECTOR.

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

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 9-1-41
 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.)

The boilers have been built under special survey in accordance with rule requirements & approved plans. 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 ... £ *See Machinery Report* When applied for, 10
 Travelling Expenses (if any) £ *See Machinery Report* When received, 10

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

Committee's Minute TUE. 10 FEB 1942

Assigned *See Nuc. 76 100/32*