E.C.

006523-006535-0030

Rpt. 5a.

REPORT ON BOILERS.

No. 79127

Received at London Office 28 APR 1925

Date of writing Report ____ 192__ When handed in at Local Office 25/4/1925 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Hebburn-on-Tyne. Date, First Survey 13th Jan/1925 Last Survey 24th April 1925

on the Main Boiler Palmers 1047/8 for T.I.C. Ferry "TYNEMOUTH" Number of Visits 20. Tons Gross 299 Net 134

Master ____ Built at Jarrow By whom built Philip & Son. Yard No. 69. When built 1925

Engines made at Do. By whom made Do. Engine No. 68 268. When made 1925.

Boilers made at Hebburn By whom made Palmers H. & J. Co Ltd. Boiler No. 1047/8 When made 1925

Nominal Horse Power 119. Owners Tyne Improvement Commission Port belonging to North Shields

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

Manufacturers of Steel The Steel Co of Scotland (Letter for Record E)

Total Heating Surface of Boilers 1960 ft Is forced draught fitted no Coal or Oil fired Coal.

No. and Description of Boilers Two cyl multi 2SB. Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 22/4/25 No. of Certificate 9914 Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 34½ sq ft No. and Description of safety valves to each boiler Pair spring loaded.

Area of each set of valves per boiler {per Rule 6.2 / as fitted 9.8} 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

Smallest distance between boilers ~~or uptakes~~ and bunkers ~~or woodwork~~ 16" Is oil fuel carried in the double bottom under boilers no.

Smallest distance between shell of boiler and ~~tank top~~ Shelf plating 2'-2" Is the bottom of the boiler insulated no

Largest internal dia. of boilers 10'-0" Length 11'-6" **Shell plates:** Material Steel Tensile strength 28 to 32 Tons

Thickness 27/32" Are the shell plates welded or flanged Yes Description of riveting: circ. seams {end DRL / inter.}

Long. seams TRDBS. Diameter of rivet holes in {circ. seams 1⅛" / long. seams 15/16"} Pitch of rivets {3⅝" / 6¾"}

Percentage of strength of circ. end seams {plate 69.5 % / rivets 49 %} Percentage of strength of circ. intermediate seam {plate / rivets}

Percentage of strength of longitudinal joint {plate 88.11 % / rivets 93.14 % / combined 90.87} Working pressure of shell by Rules 183 lbs

Thickness of butt straps {outer / inner} 27/32" **No. and Description of Furnaces in each Boiler** Two 3 Cf. Leightons

Material Steel Tensile strength 26 to 30 Tons Smallest outside diameter 3'-2½"

Length of plain part {top / bottom} / Thickness of plates {crown / bottom} 15/32" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 191 lbs

End plates in steam space: Material Steel Tensile strength 26 to 30 Tons Thickness 1" Pitch of stays 20" x 13"

How are stays secured DN & W. Working pressure by Rules 184 lbs

Tube plates: Material {front Steel / back Steel} Tensile strength {26 to 30 Tons / 26 to 30 Tons} Thickness {1" / ¾"}

Mean pitch of stay tubes in nests 9.56 Pitch across wide water spaces 15" x 14½" Working pressure {front 205 lbs / back}

Girders to combustion chamber tops: Material Steel Tensile strength 26 to 30 Tons Depth and thickness of girder

Where centre 14½" x 9" Length as per Rule 32" 31 19/32" Distance apart 9" No. and pitch of stays

Each 2 @ 8¼" Working pressure by Rules 211 **Combustion chamber plates:** Material Steel

Tensile strength 26 to 30 Tons Thickness: Sides 5/8" Back 21/32" Top 5/8" Bottom 7/8"

Pitch of stays to ditto: Sides 9" x 8¼" Back 9" x 8½" Top 8¼" x 9" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 183 Tops & Sides **Front plate at bottom:** Material Steel. Tensile strength 26 to 30 Tons

Thickness 1" **Lower back plate:** Material Steel Tensile strength 26 to 30 Tons Thickness 1"

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

Working Pressure 299. **Main stays:** Material Steel Tensile strength 28 to 32 Tons

Diameter {At body of stay, or Over threads} 2¾ dia No. of threads per inch 6 Area supported by each stay 20 x 13 260

Working pressure by Rules 209 **Screw stays:** Material Iron. Tensile strength Not less than 21.5 Tons

Diameter {At turned off part, or Over threads} 1¾" No. of threads per inch 9 Area supported by each stay 76.5 Sq. Inches.

Working pressure by Rules 237 lbs each. Are the stays drilled at the outer ends ✓ Margin stays: Diameter { At turned off part, or Over threads 1 7/8" ✓

No. of threads per inch 9 ✓ Area supported by each stay 14" × 9" 126 □" Working pressure by Rules 180

Tubes: Material Iron ✓ External diameter { Plain 3 5/8" ✓ Stay 3 1/4" ✓ Thickness { 8 W.G. ✓ 5/16" ✓ No. of threads per inch 9

Pitch of tubes 4 1/4" × 4 1/4" ✓ Working pressure by Rules 230 lbs ✓ **Manhole compensation:** Size of opening

shell plate 20" × 16" ✓ Section of compensating ring 2 9/16" × 3 3/16" × 1" ✓ No. of rivets and diameter of rivet holes 32 @ 1 1/16" ✓

Outer row rivet pitch at ends 7" ✓ Depth of flange if manhole flanged 3 1/2" **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

stays ____ Inner radius of crown ____ Working pressure by Rules ____

How connected to shell ____ Size of doubling plate under dome ____ Diameter of rivet holes and p

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

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

Rules ____ Pressure to which the safety valves are adjusted ____ Hydraulic test press

tubes ____, castings ____ and after assembly in place ____ Are drain cocks or valves f

to free the superheater from water where necessary ____.

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

The foregoing is a correct description,

A Cameron

Manager, Hebburn Boiler Shop & Foundry

Manufact

Dates of Survey while building { During progress of work in shops - - } 1925 Jan 13.23.28.29. Feb. 2.6.13.17.19.24.27. Mar. 5.18.23.27. Apl. 2.7.16.22.24. 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 20

GENERAL REMARKS (*State quality of workmanship, opinions as to class, &c.*) These boilers have been bu under Special Survey & the materials & workmanship are good on completion they were tested by hydraulic pressure to 320 & found sound & tight. The boilers are stated to be intended for Messrs Philip & Son Ltd Portsmouth No 691.

These boilers have been securely fitted aboard and their safety valves adjusted under steam.

P.T.Mac.

Survey Fee ... ... £13-2-0 ✓

Travelling Expenses (if any) £ : :

When applied for, 27 APR 1925 192

When received, 27.5.192 25 vide advice by hand.

Engineer Surveyor to Lloyd's Register of Shipp

Committee's Minute TUES. 1 SEP 1925

Assigned See Rly Rpt 64511