

REPORT ON BOILERS.

No. 17922

Received at London Office

DEC 27 1939

Date of writing Report 21/12/1939 When handed in at Local Office 21/12/1939 Port of WEST HARTLEPOOL

No. in Reg. Book. 9924 on the S/S LANCASTRIAN PRINCE

HARTLEPOOL & S. Bank Date, First Survey 4/9/39 Last Survey 18/12/1939

(Number of Visits 26) Tons Gross 1913.42 Net 919.51

Master Built at South Bank By whom built Smiths Dock & Co. Yard No. 1067 When built 1940

Engines made at South Bank By whom made Smiths Dock & Co. Ltd Engine No. 529 When made 1940

Boilers made at Hartlepool By whom made Messrs Richardson Westgarth & Co. Ltd Boiler No. D529 When made 1939

Nominal Horse Power Owners Prince Line Ltd Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 5968 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

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

Tested by hydraulic pressure to 380 lbs Date of test 5-12-39 No. of Certificate 3907 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 62½ sq ft No. and Description of safety valves to each boiler 2-Double Spring Lockburn-Macdonald

Area of each set of valves per boiler {per Rule 9.56 sq ft as fitted 11.849 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 Yes

Smallest distance between boilers or uptakes and bunkers on woodwork 9" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 17" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 16'6" Length 11'9" Shell plates: Material Steel Tensile strength 29/33 tons

Thickness 1½" Are the shell plates welded or flanged No Description of riveting: circ. seams {end joint D.R. inter. none

long. seams TR Double Butts Diameter of rivet holes in {circ. seams 1½" long. seams 1⅝" Pitch of rivets {4" 11"

Percentage of strength of circ. end seams {plate 62.5% rivets 44% Percentage of strength of circ. intermediate seam {plate None rivets

Percentage of strength of longitudinal joint {plate 85.22% rivets 87.8% combined 87.9% Working pressure of shell by Rules 222 lbs

Thickness of butt straps {outer 1½" inner 1⅝" No. and Description of Furnaces in each Boiler 3 Deighton section

Material Steel Tensile strength 26/30 tons Smallest outside diameter 3'10½"

Length of plain part {top Thickness of plates {crown 23" bottom 32" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 226 lbs

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1⅞" Pitch of stays 23" x 18½"

How are stays secured Double nuts Working pressure by Rules 224 lbs

Tube plates: Material {front Steel Tensile strength 26/30 tons Thickness {3½" 13" 16"

Mean pitch of stay tubes in nests 10¼" Pitch across wide water spaces 14¼" Working pressure {front 224 lbs back 226 lbs

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

at centre 9¾" 2-3 plates Length as per Rule 2'11½" Distance apart 9" No. and pitch of stays

in each 3 @ 8½" Working pressure by Rules 230 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 11" Back 11" Top 23/32" Bottom 1"

Pitch of stays to ditto: Sides 8¾" x 8½" Back 8¾" x 8½" Top 9" x 8½" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 304 236 lbs Front plate at bottom: Material Steel Tensile strength 26/30 tons Thickness 3½"

Thickness 3½" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 3½"

Pitch of stays at wide water space 15" x 8¾" Are stays fitted with nuts or riveted over Nuts

Working Pressure 256 lbs Main stays: Material Steel Tensile strength 28/32 tons

Diameter {At body of stay, or Over threads 3½" No. of threads per inch 6 Area supported by each stay 422.6 sq in

Working pressure by Rules 222 lbs Screw stays: Material Steel Tensile strength 26/30 tons

Diameter {At turned off part, or Over threads 1¾" No. of threads per inch 9 Area supported by each stay sides back 14.37 sq in

Working pressure by Rules 237 lbs. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 1/8" Over threads 1 1/8" No. of threads per inch 9 Area supported by each stay 102.8 sq. in. Working pressure by Rules 220 lbs. Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/4" Thickness { 81 W.G. 7/16" 81 W.G. 5/16" No. of threads per inch 9 Pitch of tubes 4 5/8" x 4 1/2" Working pressure by Rules 230 lbs. Manhole compensation: Size of opening 16" x 12" Section of compensating ring 2' 9" x 2' 5" x 1 1/2" No. of rivets and diameter of rivet holes 28 rivets 1 1/8" DIA. shell plate 16" x 12" Outer row rivet pitch at ends 11" Depth of flange if manhole flanged 1 1/2" 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 Smoke Tube Manufacturers of Tubes She Superheater Co. Ltd. Steel forgings Do. Steel castings Do. Number of elements 57 Material of tubes S.D. Steel Internal diameter and thickness of tubes 17 1/4" x 3 1/4" Material of headers mild steel Tensile strength See spec. Thickness 1" Can the superheater be shut off and the boiler be worked separately Yes 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 1.76 sq. ft. Are the safety valves fitted with easing gear Yes Working pressure as per Rules Pressure to which the safety valves are adjusted 220 lbs./sq. in. Hydraulic test pressure: tubes 1000 lbs. forgings and castings 660 lbs. and after assembly in place 660 lbs. Are drain cocks fitted to free the superheater from water where necessary Yes Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
RICHARDSON, WILKINSON & CO. LIMITED
W. E. GORRIDGE Manufacturer.

Dates of Survey { During progress of work in shops - 1939 Sept. 4 Oct. 21 Nov. 12-18 Dec. 6-8 10-13 14-15 16 Are the approved plans of boiler and superheater forwarded herewith Boiler Plan No. 8/6/39 while building { During erection on board vessel - - - - - Total No. of visits 26

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. D528, West of P. P. 17,981

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey and in accordance with the approved plans for a working pressure of 220 lbs per square inch. The materials and workmanship have been found good.

Upon completion the boilers were tested in the presence of the undersigned to 380 lbs per square inch hydraulic pressure and found sound and tight in every respect at that pressure.

These boilers are intended for Smiths Dock Co. Southbank, Cuddesbrough, their yard No. 1067. The boilers securely fitted on board, & found good.

Survey Fee ... £ 32 : 7 : 0 When applied for, 19 Travelling Expenses (if any) £ : : When received, 9/2/1940

Arthur W. Oxford
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 11 JUN 1940

Assigned

See Indb. JE 16850



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