

REPORT ON BOILERS.

No. 50675.

MAY 29 1940

Received at London Office

Date of writing Report 19 25 MAY 1940 When handed in at Local Office 19 25 MAY 1940 Port of HULL

No. in Survey held at Hull Date, First Survey 29. 3. 40. Last Survey 12. 5. 1940

Reg. Book. 39527 on the single screw steamer "EMPIRE SUCCESS" ex "IXIA" (Number of Visits 31) Gross 6009 Tons Net 3646

Built at Hamburg By whom built Vulcan. Werke Yard No. When built 1921

Engines made at Do. By whom made Do. Engine No. When made 1921

Boilers made at Do. By whom made Do. Boiler No. When made 1921

Nominal Horse Power 820 Owners Ministry of Shipping Port belonging to London

managed by Union Castle mail Steamship Co. L.

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

Manufacturers of Steel (Letter for Record S)

Total Heating Surface of Boilers 11,970 sqft. Is forced draught fitted Yes Coal or Oil fired Coal

and Description of Boilers 4 cylindrical single ended multitubular Working Pressure 206 lb.

Tested by hydraulic pressure to Date of test 26.10.30 No. of Certificate 3109 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 66 sqft No. and Description of safety valves to each boiler 3 ordinary spring loaded type

Area of each set of valves per boiler { per Rule 17 sqin as fitted 24 Pressure to which they are adjusted 206 lb Are they fitted with easing gear Yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-4" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 1'-8" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 16'-1" Length 12'-0" Shell plates: Material Steel Tensile strength 30 tons

Thickness 1 1/32" Are the shell plates welded or flanged Hangers Description of riveting: circ. seams 30 tons end double rivets lap joint inter. ✓

long. seams double butt straps quad rivets Diameter of rivet holes in { circ. seams 1-38" Pitch of rivets { 4.2" long. seams 1-5" { 15"

Percentage of strength of circ. end seams { plate 67 rivets 57 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 90 rivets 110 combined 92

Thickness of butt straps { outer 1-14" inner 1-14" No. and Description of Furnaces in each Boiler 3 independent corrugated (Morrison)

Material Steel Tensile strength 709 Smallest outside diameter 48.66"

Length of plain part { top 7.09 bottom 7.09 Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom None

End plates in steam space: Material Steel Tensile strength Thickness 1.024 Pitch of stays 15.75" x 14.96"

How are stays secured margin 3" nuts both sides & of side rivets plate 14" dia x 1.02". Others 2 3/4", outside rivets plate 12.6"

Tube plates: Material { front Steel back Steel Tensile strength { Thickness { 1.03 .94

Mean pitch of stay tubes in nests 8.7" x 8.5" Pitch across wide water spaces 14.17" x 8.5"

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

at centre 9.5" x 1.6" Length as per Rule 29.6" Distance apart 7.09" to 8.6" No. and pitch of stays

in each 3 - 7.87" Combustion chamber plates: Material Steel

Tensile strength Thickness: Sides .71 Back .71 Top .71 Bottom 1.024"

Pitch of stays to ditto: Sides 7.87, 7.87 Back 7.7, 7.87 Top Side stays Are stays fitted with nuts or riveted over nuts washers.

Front plate at bottom: Material Steel Tensile strength

Thickness 1.02" Lower back plate: Material Steel Tensile strength Thickness 1.02"

Pitch of stays at wide water space 14.17, 8.5 Are stays fitted with nuts or riveted over nuts washers.

Main stays: Material Steel Tensile strength

Diameter { At body of stay, M 3", Others 2 3/4" or No. of threads per inch 6 Over threads

Screw stays: Material Steel Tensile strength

Diameter { At turned off part, 1.5" & 1.75" or No. of threads per inch 9 Over threads

Are the stays drilled at the outer ends to Margin stays: Diameter { At turned off part, 1.9" & 2.17" Over threads

No. of threads per inch 9

Tubes: Material Steel External diameter { Plain 3" Stay 3" Thickness { .16" .31" No. of threads per inch 9

Pitch of tubes 8.7" x 8.5" (stay) Manhole compensation: Size of opening in shell plate 12.7" x 16.7" Section of compensating ring 1.5" No. of rivets and diameter of rivet holes 38 - 1.5"

Outer row rivet pitch at ends 6" Depth of flange if manhole flanged 1.5" Steam Dome: Material Steel

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 Thickness of crown No. and diameter of stays Inner radius of crown

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 Schmidt Manufacturers of { Steel forgings Steel castings

Number of elements 88 per boiler Material of tubes Steel Interval diameter and thickness of tubes 1.1", .15"

Material of headers Cast steel Tensile strength Thickness 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 24 sq. ins. Are the safety valves fitted with easing gear Yes

Pressure to which the safety valves are adjusted 206 lbs. Hydraulic test pressure 250 lbs.

tubes forgings and castings and after assembly in place Are drain cocks or valves 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, Manufacturer.

Dates of Survey { During progress of work in shops - MAR. 29, 30, APR. 1, 2, 3, 4, 5, 6, 9, 12, 15, 16, 17, 18, 20, 22, 23, 24, 25, 26, 30. Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.) while building { During erection on board vessel - MAY 1, 2, 3, 4, 7, 8, 9, 10, 11, 12. Total No. of visits 31

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

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

The boiler scantlings were checked as far as practicable and found to agree substantially with the blue print of the St. Bochum except that furnaces are riveted to combustion chambers instead of being welded. The materials and workmanship appear good. Boilers are eligible in our opinion to be classed in the Register Book.

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

W. S. Shields & A. C. Jones
Engineer Surveyors to Lloyd's Register of Shipping.
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Committee's Minute FRI. 21 JUN 1940
Assigned See Hnl GE 50675