

REPORT ON BOILERS.

No. 18415

Received at London Office

12 4 MAY 1943

Date of writing Report 22/5/1943 When handed in at Local Office 22/5/1943 Port of WEST HARTLEPOOL

No. in Reg. Book. Survey held at WEST HARTLEPOOL Date, First Survey 22nd Sept., 1942. Last Survey 15th May, 1943

on the STEEL SCREW STEAMER "EMPIRE STALWART" (Number of Visits 13) Gross 7044.60 Tons Net 4845.47

Built at WEST HARTLEPOOL By whom built WM. GARY & CO. LTD. Yard No. 1147. When built 1943

Engines made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENGINE WORKS. Engine No. 1147 When made 1943

Boilers made at WEST HARTLEPOOL. By whom made CENTRAL MARINE ENGINE WORKS. Boiler No. 1147 When made 1943.

Nominal Horse Power 510. Owners MINISTRY OF WAR TRANSPORT Port belonging to WEST HARTLEPOOL.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Colvilles & Co. Glasgow (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

Tested by hydraulic pressure to 350 lbs Date of test 7-4-43 No. of Certificate 3998 Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 54.84 sq ft No. and Description of safety valves to each boiler 2 Bockburn's High Lift

Area of each set of valves per boiler {per Rule 6.425 sq ft as fitted 7.952 sq ft Pressure to which they are adjusted 220 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 21" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 23 3/4" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-0 1/2" Length 11'-6" Shell plates: Material Steel. Tensile strength 29-33 tons and D.R. LAP.

Thickness 1 1/2" Are the shell plates welded or flanged No. Description of riveting: circ. seams {and inter. 4.07" 10 3/8"

long. seams T.R. Double butt straps Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets {

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

Percentage of strength of longitudinal joint {plate 85.5 rivets 86.2 combined 88.3.

Thickness of butt straps {outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 Corrugated Brighton Section.

Material Steel Tensile strength 26-30 tons Smallest outside diameter 45 1/4"

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

Dimensions of stiffening rings on furnace or c.c. bottom -

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/2" Pitch of stays 21 x 20"

How are stays secured Double nuts.

Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons 26-30 tons Thickness {1 1/2" 25 1/2"

Mean pitch of stay tubes in nests 10 5/8" x 8 1/4" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder at centre 10 1/2" x 1 3/8" 2-1/2" plates length as per Rule 2-9 1/2" Distance apart 9 1/4" No. and pitch of stays in each 3 @ 8"

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 1 1/2" Back 1 1/2" Top 1 1/2" Bottom 1 3/8"

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

Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 1 1/2" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 2 1/2"

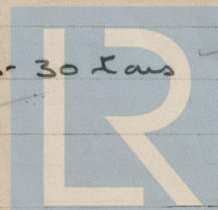
Pitch of stays at wide water space 14 x 8" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, or Over threads 3 1/2" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, or Over threads 1 3/4" No. of threads per inch 9.



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Are the stays drilled at the outer ends

No.

Margin stays: Diameter

At turned off part,
or
Over threads

1 3/4"

No. of threads per inch

9.

Tubes: Material HRWS.

External diameter

Plain 3"
Stay 3"

Thickness

8 SWG.
3/8" + 3/16"

No. of threads per inch 9.

Pitch of tubes

4 1/4" x 4 1/8"

Manhole compensation: Size of opening in

shell plate

None.

Section of compensating ring

No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends

Depth of flange if manhole flanged

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

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

Superheater B. S. S.

Manufacturers of

Tubes

Steel forgings

Steel castings

Number of elements

47

Material of tubes

SD STEEL

Internal diameter and thickness of tubes

22 1/4" x 2 1/2" MH.

Material of headers

Tensile strength

Thickness

Can the superheater be shut off and

the boiler be worked separately

No.

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

1.767 sq. in.

Are the safety valves fitted with easing gear

Yes.

Pressure to which the safety valves are adjusted

230 lbs.

Hydraulic test pressure:

tubes

660 lbs.

forgings and castings

660 lbs.

and after assembly in place

660 lbs.

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

During progress of

of Survey

work in shops - -

while

building

During erection on

board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith

(If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case

Yes.

If so, state Vessel's name and Report No. SS EM. PROWESS. RPTN° 18404.

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

and specification for a working pressure of 220 lbs.

The materials and workmanship have been found good.

Upon completion the boilers were tested in the presence of the undersigned by a hydraulic pressure of 380 lbs per square inch, showed no signs of weakness and were found tight and sound in every respect at that pressure.

Survey Fee

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£

:

:

When applied for,

19

Travelling Expenses (if any) £

:

:

When received,

19

Arthur W. Oxford.

Engineer Surveyor to Lloyd Register of Shipping.

Committee's Minute

FRI. 28 MAY 1943

Assigned

See fe, machy rpt.



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