

REPORT ON BOILERS.

No. 18686

Received at London Office

Date of writing Report 27/9/1945 When handed in at Local Office 28/9/1945 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL

Date, First Survey 2/10/44

Last Survey 22/9/

1945

(Number of Visits 81)

Gross 7372.83

Tons Net 5253.77

On the STEEL SCREW STEAMER EMPIRE DUNNET.

Master Built at WEST HARTLEPOOL By whom built WM. GRAY & CO. LTD. Yard No. 1177 When built 1945.

Engines made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENGINE WORKS. Engine No. 1177 When made 1945.

Boilers made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENGINE WORKS Boiler No. 1177 When made 1945.

Nominal Horse Power 541. Owners MINISTRY OF WAR TRANSPORT. Port belonging to WEST HARTLEPOOL.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Colvilles Ltd. Glasgow. (Letter for Record S. ✓)

Total Heating Surface of Boilers 7941 sq. ft. Is forced draught fitted Yes. Coal or Oil fired Either ✓

No. and Description of Boilers 3 Single ended Multitubular Working Pressure 220 lbs. ✓

Tested by hydraulic pressure to 380 lbs. Date of test 23-7-45. No. of Certificate 4050. 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 Lockburis 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 1/2" Is the bottom of the boiler insulated Yes. ✓

Largest internal dia. of boilers 15' 0" x 6" Length 11' 6" Shell plates: Material Steel Tensile strength 29.33 tons ✓

Thickness 1 1/2" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end D.R. LAP. inter. —

long. seams TR Double butt strap Diameter of rivet holes in {circ. seams 1 1/2" Pitch of rivets {4.07" inter. 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 —

Percentage of strength of longitudinal joint {plate 85.5 rivets 86.2 combined 88.3 Working pressure of shell by Rules —

Thickness of butt straps {outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 Corrugated, Deighton 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 1/4" Description of longitudinal joint Welded. ✓

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

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. Working pressure by Rules —

Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons 26-30 tons Thickness {15 1/16" 25 1/32" ✓

Mean pitch of stay tubes in nests 10 5/8 x 8 1/4" Pitch across wide water spaces 14" Working pressure {front — back —

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

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

in each 3 @ 8" Working pressure by Rules — Combustion chamber plates: Material Steel ✓

Tensile strength 26-30 tons 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 Steel Tensile strength 26-30 tons ✓

Thickness 15 1/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 27 1/32" ✓

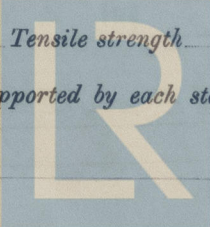
Pitch of stays at wide water space 14 x 8" Are stays fitted with nuts or riveted over Nuts ✓

Working Pressure — Main stays: Material Steel Tensile strength 28-32 tons ✓

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

Working pressure by Rules — 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 Area supported by each stay —



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Working pressure by Rules

Are the stays drilled at the outer ends

Margin stays: Diameter { At turned off part, or Over threads

No. of threads per inch

9

Area supported by each stay

Working pressure by Rules

Tubes: Material HRWS

External diameter { Plain Stay

3" 3"

Thickness

8 W.G.

No. of threads per inch

9

Pitch of tubes

4 1/4 x 4 1/8

Working pressure by Rules

Manhole compensation: Size of opening in

shell plate

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

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 Steel forgings Steel castings

World Eastern Marine Eng Co.

Number of elements

59

Material of tubes

SP Steel

Internal diameter and thickness of tubes 15 1/4 x 2 1/2

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

Are the safety valves fitted with easing gear

Yes

Working pressure as per

Rules

Pressure to which the safety valves are adjusted

230 lbs

Hydraulic test pressure:

tubes

forgings and castings

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

See Spt. certificate

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS

Manufacturer.

Dates of Survey { During progress of work in shops - - During erection on board vessel - - -

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

19-2-41

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.)

These boilers have been built

under special survey and in accordance with the approved plans and specification 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 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 ... £

Travelling Expenses (if any) £

When applied for,

10

When received,

10

Arthur W. Oxford

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 2 NOV 1945

Assigned

See F.E. machy. spt.



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