

REPORT ON BOILERS.

No. 18194

Received at London Office 26 SEP 1941

Date of writing Report 28/9/1941 When handed in at Local Office 23/9/1941 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL

Date, First Survey 22nd October, 1940, Last Survey 17th September, 1941

on the S.S. EMPIRE WOLFE

(Number of Visits 80) Gross 2873.42 Tons Net 1684.56

Built at West Hartlepool By whom built Wm. Gray & Co. Ltd.

Yard No. 1119 When built 1941.

Engines made at West Hartlepool By whom made Central Marine Engine Works Engine No. 1119 When made 1941.

Boilers made at West Hartlepool By whom made Central Marine Engine Works Boiler No. 1119 When made 1941.

Nominal Horse Power 269.

Owners Ministry of War Transport. Port belonging to West Hartlepool.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Colvilles & Co.

(Letter for Record 5.

Total Heating Surface of Boilers 3854 sq. ft.

Is forced draught fitted Yes.

Coal or Oil fired Coal.

No. and Description of Boilers 2 Single ended Multitubular

Working Pressure 200 lbs.

Tested by hydraulic pressure to 350 lbs. Date of test 12-6-41 No. of Certificate 3936. Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 43.25 sq. ft. No. and Description of safety valves to each boiler 2 Cockburn High Lift.

Area of each set of valves per boiler { per Rule 5.6 sq. ft. as fitted 7.95 sq. ft. Pressure to which they are adjusted 200 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 24"

Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 24"

Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 13'-6" Length 11'-6"

Shell plates: Material Steel

Tensile strength 29/33 tons

Thickness 1 13/16" Are the shell plates welded or flanged No.

Description of riveting: circ. seams { end D.R. LAP. inter. -

long. seams T.R. Double butt straps Diameter of rivet holes in { circ. seams 1 5/16" long. seams 1 1/4"

Pitch of rivets { 4" 8 1/2"

Percentage of strength of circ. end seams { plate 67.2 rivets 50.4

Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate 85.9 rivets 86

combined 88.1

Thickness of butt straps { outer 1 5/16" inner 1 1/16"

No. and Description of Furnaces in each Boiler 3 Corrugated Deighton Section.

Material Steel

Tensile strength 26/30 tons

Smallest outside diameter 3'-2 1/2"

Length of plain part { top - bottom -

Thickness of plates { crown 9/16" bottom 1 1/16"

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 3/16"

Pitch of stays 18 1/4" x 17 3/4"

How are stays secured Double nuts.

Tube plates: Material { front Steel back Steel

Tensile strength { 26/30 tons 26/30 tons

Thickness { 3/32" 1/16"

Mean pitch of stay tubes in nests 12 3/8" x 8 3/8"

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 13 1/4" x 13 1/4" 2-3/8" plates Length as per Rule 2'-9 15/32"

Distance apart 8"

No. and pitch of stays

in each 2 @ 10 3/4"

Combustion chamber plates: Material Steel

Tensile strength 26/30 tons

Thickness: Sides 23/32"

Back 23/32"

Top 23/32"

Bottom 23/32"

Pitch of stays to ditto: Sides 11" x 7 3/4" Back 10 1/2" x 8 3/8" Top 10 3/4" x 8" Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel

Tensile strength 26/30 tons

Thickness 29/32"

Lower back plate: Material Steel

Tensile strength 26/30 tons

Thickness 29/32"

Pitch of stays at wide water space 14 3/8" x 10 1/2"

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"

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, 2" or Over threads 2"

No. of threads per inch 9.

Tubes: Material WS. Hot rolled External diameter { Plain 3" Stay 3" Thickness { 8 SWG. No. of threads per inch 9.

Pitch of tubes H 3/16 x H 3/8 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 None Manufacturers of { Tubes Steel forgings 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 and 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 —

Pressure to which the safety valves are adjusted — Hydraulic test pressure: tubes forgings and castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary —

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS,
(Ed. Gray & Co. Ltd.) Manufacturer.

Dates of Survey { During progress of work in shops -- while building { During erection on board vessel -- } Are the approved plans of boiler and superheater for GENERAL MANAGER. (If not state date of approval.)

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 constructed under special survey and in accordance with the approved plans and specification for a working pressure of 200 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 350 lbs per square inch, showed no signs of weakness, and were found tight and sound in every respect at that pressure.

Survey Fee ... £ : : When applied for, 19.

Travelling Expenses (if any) £ : : When received, 19.

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

Committee's Minute

Assigned

TUE. 14 OCT 1941

See Hpl. J.C. 18194



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