

REPORT ON BOILERS.

No. 18521

Received at London Office

= 6 MAR 1944

Date of writing Report 2/3/1944 When handed in at Local Office 3/3/1944 Port of WEST HARTLEPOOL

No. in Reg. Book. Survey held at WEST HARTLEPOOL

Date, First Survey 13th August 1943 Last Survey 29th February 1944

(Number of Visits 55

Tons { Gross 2905.45
Net 1640.70

on the STEEL SCREW STEAMER "EMPIRE SEDLEY"

Built at WEST HARTLEPOOL By whom built WM. GRAY & CO. LTD.

Yard No. 1163 When built 1944.

Engines made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS.

Engine No. 1163 When made 1944.

Boilers made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS.

Boiler No. 1163. When made 1944.

Nominal Horse Power 281.

Owners MINISTRY OF WAR TRANSPORT.

Port belonging to WEST HARTLEPOOL.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Babcock & Wilcox, Ltd. Glasgow.

(Letter for Record S ✓)

Total Heating Surface of Boilers 4,147 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 24-11-43 No. of Certificate 4016 Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler 46.2 sq ft No. and Description of safety valves to each boiler 2 Cockburn's High Lift ✓

Area of each set of valves per boiler { per Rule 6.03 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 16 3/4" ✓

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

Smallest distance between shell of boiler and tank top plating 2-9" ✓

Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 14'-0" ✓ Length 11'-9" ✓

Shell plates: Material Steel ✓

Tensile strength 29-33 tons ✓

Thickness 1 5/16" ✓ Are the shell plates welded or flanged No ✓

Description of riveting: circ. seams { end D.R. LAP.
inter. -long. seams T.R. Double butt strap Diameter of rivet holes in { circ. seams 1 5/16" ✓
long. seams 1 5/16" ✓Pitch of rivets { 4" ✓
9" ✓Percentage of strength of circ. end seams { plate 67.2
rivets 43.5Percentage of strength of circ. intermediate seam { plate
rivetsPercentage of strength of longitudinal joint { plate 85.42
rivets 90.6
combined 88.95.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'-5 3/16" ✓

Length of plain part { top -
bottom -Thickness of plates { crown 1 9/32" ✓
bottom 1 9/32" ✓

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 9/32" ✓

Pitch of stays 19 3/4" x 19 3/8" ✓

How are stays secured Double nuts ✓

Tube plates: Material { front Steel ✓
back Steel ✓Tensile strength { 26-30 tons ✓
26-30 tons ✓Thickness { 2 9/32" ✓
1 3/16" ✓

Mean pitch of stay tubes in nests 12 3/8" x 8 1/2" ✓

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 7 3/4" x 1 3/4", 2-8" plates, length as per Rule 2-7 1/2" ✓

Distance apart 9" ✓

No. and pitch of stays

in each 2 @ 10" ✓

Combustion chamber plates: Material Steel ✓

Tensile strength 26-30 tons ✓

Thickness: Sides 2 3/32" ✓

Back 1 1/16" ✓

Top 2 3/32" ✓

Bottom 2 3/32" ✓

Pitch of stays to ditto: Sides 10 3/8" x 8 1/2" ✓

Back 9 3/8" x 8 3/4" ✓

Top 10" x 9" ✓

Are stays fitted with nuts or riveted over No ✓

Front plate at bottom: Material Steel ✓

Tensile strength 26-30 tons ✓

Thickness 2 9/32" ✓

Lower back plate: Material Steel ✓

Tensile strength 26-30 tons ✓

Thickness 7/8" ✓

Pitch of stays at wide water space 14 3/8" x 9 3/8" ✓

Are stays fitted with nuts or riveted over No ✓

Main stays: Material Steel ✓

Tensile strength 28-32 tons ✓

Diameter { At body of stay, 3 1/4" ✓
Over threads -

No. of threads per inch 6 ✓

Screw stays: Material Steel ✓

Tensile strength 26-30 tons ✓

Diameter { At turned off part, 1 3/4" ✓
Over threads -

No. of threads per inch 9 ✓



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015026-015038-0219

Are the stays drilled at the outer ends Yes Margin stays: Diameter ^{At turned off part,} 2"
 No. of threads per inch 9
 Tubes: Material H.R.W.S. External diameter ^{Plain} 3" Thickness ^{8WG.} 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 None No. of rivets and diameter of rivet holes
 Outer row rivet pitch at ends None Depth of flange if manhole flanged None Steam Dome: Material None
 Tensile strength None Thickness of shell None Description of longitudinal joint None
 Diameter of rivet holes None Pitch of rivets None Percentage of strength of joint ^{Plate} None
 Internal diameter None Thickness of crown None No. and diameter of
 stays None Inner radius of crown None
 How connected to shell None Size of doubling plate under dome None Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell None
 Type of Superheater None Manufacturers of ^{Tubes} None
 Number of elements None Material of tubes None Internal diameter and thickness of tubes None
 Material of headers None Tensile strength None Thickness None Can the superheater be shut off and
 the boiler be worked separately None Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
 Area of each safety valve None Are the safety valves fitted with easing gear None
 Pressure to which the safety valves are adjusted None Hydraulic test pressure: None
 tubes None forgings and castings None and after assembly in place None Are drain cocks or
 valves fitted to free the superheater from water where necessary None
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with None

The foregoing is a correct description,
 FOR THE CENTRAL MARINE ENGINE WORKS

(E. C. & Co. Ltd.) Manufacturer.

Dates of Survey ^{During progress of} work in shops - - Are the approved plans of boiler and superheater forwarded herewith
 while building ^{During erection on} board vessel - - - (If not state date of approval.)
 Total No. of visits None

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. EM. HARCOURT RPT No 18510.

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 THURS 9 MAR 1944

Assigned Lee J. Mackay rpl

