

REPORT ON BOILERS.

No. 17969.

Received at London Office 8 SEP 1939

Date of writing Report 2/9/1939 When handed in at Local Office 5/9/1939 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL Date, First Survey 27/1/39 Last Survey 11/9/1939
Reg. Book. (Number of Visits 98.) Gross 5414.07 Tons Net 3244.9

Master Built at West Hartlepool By whom built William Gray & Co. Ltd. Yard No. 1094 When built 1939
Engines made at West Hartlepool By whom made Central Marine Eng. Works. Engine No. 1094 When made 1939
Boilers made at West Hartlepool By whom made Central Marine Eng. Works. Boiler No. 1094 When made 1939
Nominal Horse Power 442 Owners Sir Walter Herbert Bocketline Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 5092 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 2 Single ended Working Pressure 200 lbs

Tested by hydraulic pressure to 350 lbs Date of test 16.5.39 No. of Certificate 3902 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 50.4 sq ft No. and Description of safety valves to each boiler 2 Bourdon's High Lift

Area of each set of valves per boiler (per Rule 7.40" as fitted 9.8" 2022 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 uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2'-6 1/2" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-3" 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 DR. LAP. inter. single stroke

long. seams TR D Butt straps Diameter of rivet holes in (circ. seams 1 3/16" long. seams 1 3/16" Pitch of rivets (plate 4" rivets 9 5/8"

Percentage of strength of circ. end seams (plate 65.625% rivets 43.8% Percentage of strength of circ. intermediate seam (plate rivets

Percentage of strength of longitudinal joint (plate 85.71% rivets 85.31% combined 88.5% Working pressure of shell by Rules 201.7 lbs

Thickness of butt straps (outer 1 1/2" inner 1 5/8" No. and Description of Furnaces in each Boiler 3 Deighton Section (Stephen Goulay ends)

Material Steel Tensile strength 26-30 tons Smallest outside diameter 44 3/4"

Length of plain part (top bottom Thickness of plates (crown 5/8" bottom Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 203.8 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/2" Pitch of stays 21 x 19 3/4"

How are stays secured Double nuts Working pressure by Rules 204 lbs

Tube plates: Material (front back Steel Tensile strength 26-30 tons Thickness (front 27/32" back 21/32"

Mean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14" Working pressure (front 229.5 lbs back 233.3 lbs

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

at centre 9 3/4" (2 @ 7/8") Length as per Rule 33.44" Distance apart 10 1/2" No. and pitch of stays

in each 3 @ 8 3/4" Working pressure by Rules 201.4 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 13/16"

Pitch of stays to ditto: Sides 8 3/4" x 9 3/4" Back 9 1/2" x 9 1/2" Top 8 3/4" x 10 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 211.5, 201.1, 203.5 Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 29/32"

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

Pitch of stays at wide water space 15 1/4" x 9 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 208.5 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter (At body of stay, Over threads 3 1/16" No. of threads per inch 6 Area supported by each stay 424.6 sq in

Working pressure by Rules 206 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter (At turned off part, Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 90.25 sq in

Working pressure by Rules 201 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads } 2" ✓
 No. of threads per inch 9 Area supported by each stay 117.5 sq. Working pressure by Rules 210.3 lbs.
 Tubes: Material LW Wat Iron External diameter { Plain 3" Stay 3" } Thickness { 2/10, 3/10, 4/10, 5/10 } No. of threads per inch 9
 Pitch of tubes 4 1/2 x 4 1/8 (Plain) Working pressure by Rules 250 lbs. Manhole compensation: Size of opening in
 END shell plate 16" x 12" 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 Messrs Stewart & Lloyd's Glasgow, Steel forgings Messrs Colvilles, Steel castings Messrs Stephenson }
 Number of elements 59 per boiler Material of tubes SD steel (Cold finished) Internal diameter and thickness of tubes 17" / 19" dia 2 1/2" / 3" thick
 Material of headers Forged steel Tensile strength 26-30 tons Thickness 1 1/2" 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 1.76 sq. ft. @ 1 1/2" dia High lift Are the safety valves fitted with easing gear Yes Working pressure as per
 Rules as approved 200 lbs. Pressure to which the safety valves are adjusted 210 lbs. Hydraulic test pressure:
 tubes 1200 lbs. forgings and castings 600 lbs. and after assembly in place 1000 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 Firm or Person to whom description,
 (Name & Co. Ltd.)
 J. Shanks & Co. Ltd. Manufacturer.
 GENERAL MANAGER.

Dates of Survey { During progress of work in shops - - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 while building { During erection on board vessel - - - } Total No. of visits 51

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 for a working pressure of
 200 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 350 lbs per square inch, showed no
 signs of weakness and were found sound and
 tight 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.

15 SEP 1939

Committee's Minute
 Assigned See Hpl. J.E. 17969

