

REPORT ON BOILERS.

No. 16480

Received at London Office -3 MAY 1927

Date of writing Report 23rd April 1927 When handed in at Local Office 2.5.1927 Port of WEST HARTLEPOOL

No. in Book 358 Survey held at West Hartlepool Date, First Survey 9th April 1927 Last Survey 22nd April 1927

on the SS "HARTBRIDGE" (Number of Visits 1) Tons {Gross 5080 Net 3132}

Built at West Hartlepool By whom built Wm Gray & Co Ltd Yard No. 983 When built 1927

Engines made at West Hartlepool By whom made Central Marine Engine Engine No. 983 When made 1927

Boilers made at do By whom made Works Boiler No. 983 When made 1927

Indicated Horse Power 208 Owners Brookby Hayes Co. Port belonging to W. Hartlepool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel D. Colville & Sons (Letter for Record S)

Total Heating Surface of Boilers 6828 sq. ft. Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers Two, single ended Working Pressure 180

Tested by hydraulic pressure to 320 lb Date of test 25.2.27 No. of Certificate 3692 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 78.6 sq. ft. No. and Description of safety valves to each boiler 2 Cockburns high lift

Area of each set of valves per boiler {per Rule 14.58 as fitted 16.59} Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

Smallest distance between boilers or uptakes and bunkers or woodwork 20" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating no Is the bottom of the boiler insulated no

Largest internal dia. of boilers 17'-6" Length 11'-6" Shell plates: Material Steel Tensile strength 29/33

Thickness 1 3/8" Are the shell plates welded or flanged no Description of riveting: circ. seams {end D.R. Lap. inter. Trib. R. Lap.} Pitch of rivets 9 3/4"

Percentage of strength of circ. end seams {plate 68.5 rivets 75} Percentage of strength of circ. intermediate seam {plate 70 rivets 61.4}

Percentage of strength of longitudinal joint {plate 85.3 rivets 91 combined 88.7} Working pressure of shell by Rules 180

Thickness of butt straps {outer 1 1/16" inner 1 3/16"} No. and Description of Furnaces in each Boiler 4 Deightons

Material Steel Tensile strength 26/30 Smallest outside diameter 44 9/16"

Length of plain part {top 19" bottom 32"} Thickness of plates {crown 19" bottom 32"} Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom no Working pressure of furnace by Rules 193

Stays in steam space: Material Steel Tensile strength 26/30 Thickness 1 1/4" Pitch of stays 24"x18"

How are stays secured D. Nuts & washers Working pressure by Rules 185

Front plates: Material {front Steel back steel} Tensile strength {26/30} Thickness {1 1/16"}

Span pitch of stay tubes in nests 13 1/2"x9" Pitch across wide water spaces 14 1/4"x9" Working pressure {front 212 back 187}

Stays to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder centre 9"x1 1/4" Length as per Rule 32 1/2" Distance apart 9" No. and pitch of stays each 2-10 1/4" Working pressure by Rules 184 Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 7/8"

Pitch of stays to ditto: Sides 9"x10 3/4" Back 9 1/2"x9 1/2" Top 9"x10 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 183 Front plate at bottom: Material Steel Tensile strength 26/30 Thickness 1" Lower back plate: Material Steel Tensile strength 26/30 Thickness 7/8"

Pitch of stays at wide water space 14 1/4"x9 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 208 Main stays: Material Steel Tensile strength 28/32

Thickness {At body of stay 3 1/4" or Over threads 3 1/4"} No. of threads per inch 6 Area supported by each stay 24"x18"

Working pressure by Rules 186 Screw stays: Material Steel Tensile strength 26/30

Thickness {At turned off part 1 3/4" or Over threads 1 3/4"} No. of threads per inch 9 Area supported by each stay 9"x10 3/4"

Working pressure by Rules 188 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 1 7/8"
 or ^{Over threads} 1 7/8"
 No. of threads per inch 9 Area supported by each stay 11 7/8" x 9 1/2" Working pressure by Rules 189
 Tubes: Material Iron External diameter ^{Plain} 3 1/4" Thickness ^{9 V V G} 3/16" ^{1/4" x 9/16"} No. of threads per inch 9
^{Stay} 3 1/4"
 Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 180 lbs Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring flanged No. of rivets and diameter of rivet holes ✓
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 7/8" Steam Dome: Material none
 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 none Manufacturers of ^{Tubes} _____
^{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 _____ Working pressure as per
 Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure:
 tubes _____ 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 23 inclusive for boilers been complied with yes FOR THE CENTRAL MARINE ENGINE WORKS,
 (W. Gray & Co. Ltd.)
 The foregoing is a correct description.
[Signature] Manufacturer.
 MANAGING DIRECTOR, C.M.E.W.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
See accompanying machinery report

Survey Fee £ ✓ : : When applied for, 192
 Travelling Expenses (if any) £ ✓ : : When received, 192

R.D. Shilston & Robert Rae
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 6 MAY 1927

Assigned see minute on 4th Rpt
16480 attached

