

REPORT ON BOILERS.

No. 16315

4 JUL 1925

Received at London Office

of writing Report 30th June 1925. When handed in at Local Office 2 July 1925 Port of West Hartlepool
 Survey held at West Hartlepool Date, First Survey 13 June Last Survey 29 June 1925
 on the S.S. "CAIRNHILL" EX "NITEDAL" (Number of Visits 1) Gross 2901 Tons Net 2363
 Built at West Hartlepool By whom built Wm Gray & Co Ltd Yard No. 961 When built 1924
 Lines made at West Hartlepool By whom made Central Marine Eng. Works Engine No. 961 When made 1924
 Boilers made at ditto By whom made ditto Boiler No. 961 When made 1924
 Owners Macbeth Blackwood & Hawick Port belonging to Glasgow

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel J. Spencer & Sons Ltd (Letter for Record S)
 Heating Surface of Boilers 1231 sq ft Is forced draught fitted no Coal or Oil fired coal
 and Description of Boilers One, single ended Working Pressure 180
 tested by hydraulic pressure to 360 Date of test 15.4.24 No. of Certificate ✓ Can each boiler be worked separately yes
 of Firegrate in each Boiler 34.7 sq ft No. and Description of safety valves to each boiler 2 high lift (Cochran)
 of each set of valves per boiler {per Rule 5.275 as fitted 6.285 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 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 ✓ Is oil fuel carried in the double bottom under boilers no
 smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated yes
 largest internal dia. of boilers 12' 0" Length 10' 0" Shell plates: Material Steel Tensile strength 27/30
 thickness 1 1/2" Are the shell plates welded or flanged yes Description of riveting: circ. seams {end DR Lap inter. ✓
 g. seams J.R. & B.S. Diameter of rivet holes in {circ. seams 1 1/8" in end plate Pitch of rivets { 3 3/4"
 percentage of strength of circ. end seams {plate shell flanged rivets 85.2 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓
 percentage of strength of longitudinal joint {plate 94.5 rivets 89.6 combined Working pressure of shell by Rules 180 lb
 thickness of butt straps {outer 3 1/2" inner 1 5/8" No. and Description of Furnaces in each Boiler 2 Doughtons
 Material Steel Tensile strength 26/30 Smallest outside diameter 41 7/8"
 length of plain part {top ✓ bottom ✓ Thickness of plates {crown 17" bottom 32" Description of longitudinal joint welded
 dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 185
 plates in steam space: Material Steel Tensile strength 26/30 Thickness 16" x 15 1/4" Pitch of stays 177
 how are stays secured D. nuts & washers Working pressure by Rules 177
 end plates: Material {front Steel back Steel Tensile strength { 26/30 Thickness { 1" front 2 1/32" back 2 1/32"
 pitch of stay tubes in nests 9" x 9" Pitch across wide water spaces 14 1/4" x 9" Working pressure {front 244 back 188
 doors to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder
 centre 8" x 1 1/4" Length as per Rule 28 1/8" Distance apart 8 1/2" No. and pitch of stays
 each 2 9 1/2" Working pressure by Rules 202 Combustion chamber plates: Material Steel
 tensile strength 26/30 Thickness: Sides 21" Back 21" Top 21" Bottom 32"
 pitch of stays to ditto: Sides 9 3/8" x 8 3/4" Back 9 3/8" x 8 3/4" Top 9 1/2" x 8 1/2" Are stays fitted with nuts or riveted over nuts
 working pressure by Rules 182 Front plate at bottom: Material Steel Tensile strength 26/30
 thickness 1" Lower back plate: Material Steel Tensile strength 26/30 Thickness 27"
 pitch of stays at wide water space 13 1/2" x 9 3/8" Are stays fitted with nuts or riveted over nuts
 Shipping Pressure 212 Main stays: Material Steel Tensile strength 28/32
 meter {At body of stay, 2 5/8" No. of threads per inch 6 Area supported by each stay 16" x 15 1/4"
 Over threads ✓ Working pressure by Rules 203 Screw stays: Material Steel Tensile strength 26/30
 meter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 9 3/8" x 8 3/4"
 Over threads ✓

Working pressure by Rules 220 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/8" or Over threads 1 1/8" No. of threads per inch 9 Area supported by each stay 11 1/8" x 9 3/8" Working pressure by Rules 204 Tubes: Material Iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 3/16" 1/4" 3/8" No. of threads per inch 9 Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 230 & 283 Manhole compensation: Size of open end shell plate 12" x 16" Section of compensating ring 1 1/4" x 1 1/4" No. of rivets and diameter of rivet holes 2 1/2" Outer row rivet pitch at ends Depth of flange if manhole flanged 2 5/8" 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 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 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 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure tubes, castings and after assembly in place Are drain cocks or valves 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, The foregoing is a correct description,

MANAGING DIRECTOR, C.M.E.W.

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

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. Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUES. 14 JUL 1925

Assigned