

REPORT ON BOILERS.

No. 16828

Received at London Office

-5 NOV 1929

190 Oct 1929 When handed in at Local Office 29.10 1929 Port of WEST HARTLEPOOL

Survey held at West Hartlepool Date, First Survey 26th June Last Survey 23rd Oct. 1929

025 on the S.S. "DUNELMIA" (Number of Visits 4) Gross 5207 Tons Net 3220

Built at West Hartlepool By whom built Wm Gray & Co. Ltd. Yard No. 1028 When built 1929

Engines made at West Hartlepool By whom made Central Marine Engine No. 1028 When made 1929

Boilers made at ditto By whom made Engine Works Boiler No. 1028 When made 1929

nominal Horse Power Owners Metcalfe Don & Co Ltd. Port belonging to West Hartlepool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 7356 sq. ft Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers Three single ended Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 5.9.29 No. of Certificate 3766 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 545^{sq. ft} No. and Description of safety valves to each boiler 2 Cockburns improved high lift

Area of each set of valves per boiler {per Rule 7.86" as fitted 9.82" 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

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-7" 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

Largest internal dia. of boilers 14'-9⁵/₈" Length 12'-0" Shell plates: Material Steel Tensile strength 29/33

Thickness 1³/₁₆" Are the shell plates welded or flanged no Description of riveting: circ. seams end 2R lap

long. seams J.R. D.B.S. Diameter of rivet holes in {circ. seams 1¹/₄" long. seams 1¹/₄" Pitch of rivets {3⁵/₈" 8³/₄"

Percentage of strength of circ. end seams {plate 67 rivets 42.2 Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 85.6 rivets 87.7 Working pressure of shell by Rules 183 lbs

Thickness of butt straps {outer 1⁵/₁₆" inner 1¹/₁₆" No. and Description of Furnaces in each Boiler 3 Deightons 3 cf

Material Steel Tensile strength 26/30 Smallest outside diameter 43"

Length of plain part {top bottom Thickness of plates {crown 9⁹/₁₆" bottom 9⁹/₁₆" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 190 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1³/₁₆" Pitch of stays 22" x 18¹/₂"

How are stays secured Double nuts & washers Working pressure by Rules 182 lbs

Tube plates: Material {front Steel back Steel Tensile strength {26/30 Thickness {8¹/₁₆" 13¹/₁₆"

Mean pitch of stay tubes in nests 11¹/₄" x 7¹/₂" Pitch across wide water spaces 13¹/₂" Working pressure {front 193 lbs back 270 lbs

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

at centre 9¹/₈" x 1¹/₂" Length as per Rule 34¹⁷/₃₂" Distance apart 9¹/₄" No. and pitch of stays

in each 3 9" Working pressure by Rules 182 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 2¹/₃₂" Back 2¹/₃₂" Top 2¹/₃₂" Bottom 2¹/₃₂"

Pitch of stays to ditto: Sides 9" x 9¹/₄" Back 9¹/₂" x 8¹/₂" Top 9" x 9¹/₄" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 180 lbs Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 7¹/₈" Lower back plate: Material Steel Tensile strength 26/30 Thickness 13¹/₁₆"

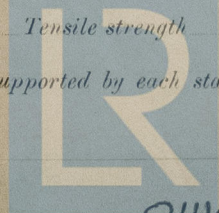
Pitch of stays at wide water space 13¹/₂" x 8¹/₂" Are stays fitted with nuts or riveted over nuts

Working Pressure 210 lbs Main stays: Material Steel Tensile strength 28/32

Diameter {At body of stay, or Over threads 3¹/₈" No. of threads per inch 6 Area supported by each stay 20" x 20"

Working pressure by Rules 184 lbs Screw stays: Material Steel Tensile strength 26/30

Diameter {At turned off part, or Over threads 1⁵/₈" No. of threads per inch 9 Area supported by each stay 9" x 9¹/₄"



Working pressure by Rules 182 lb Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part.} 1 3/4" ^{or} 1 3/4" ^{Over threads} ✓
No. of threads per inch 9 Area supported by each stay 11 1/2" x 8 1/2" Working pressure by Rules 186 lb
Tubes: Material Iron External diameter ^{Plain} 2 1/2" ^{Stay} 2 1/2" Thickness ^{9 W.G.} 3/16" + 1/4" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 185 lb Manhole compensation: Size of opening 28 - 1 3/8"
shell plate 16" x 20" Section of compensating ring 22" x 1 3/16" No. of rivets and diameter of rivet holes 28 - 1 3/8"
Outer row rivet pitch at ends 9 3/4" Depth of flange if manhole flanged ✓ 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 dia /
stays / Inner radius of crown / Working pressure by Rules /
How connected to shell / Size of doubling plate under dome / Diameter of rivet holes /
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 /
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 p /
Rules / Pressure to which the safety valves are adjusted / Hydraulic /
tubes / castings / and after assembly in place / Are drain cocks /
to free the superheater from water where necessary /

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes!

FOR THE CENTRAL MARINE ENGINE WORKS
The foregoing is a correct description of the boiler and superheater.

Insia

Dates of Survey ^{During progress of work in shops - - -} See machinery list.
^{while building} ^{During erection on board vessel - - -}

Are the approved plans of boiler and superheater forwarded hereto (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

Engineer Surveyor to Lloyd's Register

Committee's Minute

FRI. 8 NOV 1929

Assigned

See p. 6. pt. attached

Rpt. 13.

REPO

Date of writing Report

No. in Survey he
Reg. Book.

40025. on the

Built at U

Owners Metcalf

Electric Light Ins

System of Distribu

Pressure of supply fo

Direct or Alternati

If alternating current

Has the Automatic C

Generators, do they

are they over compoun

Where more than one

series with each shunt f

Are all terminals access

short circuited, or touch

Position of Generat

is the ventilation in w

if situated near unp

are their axes of rotat

Earthing, are the be

their respective generat

Main Switch Board

a fuse on each insulate

Switchboards, are t

are they protected from

woodwork or other com

are they constructed w

permanently high insu

with mica or micanite

and is the frame effecti

yes

bars yes

Main Switchgear,

+ fuses

fuses

Instruments on ma

Earth Testing, stat

cou

Switches, Circuit I

Joint Boxes Sectio



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Foundation