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Rpt. 5a.

REPORT ON BOILERS.

No. 16654

11 JUL 1928

Received at London Office

Date of writing Report 1928 When handed in at Local Office 9.7.28 Port of WEST HARTLEPOOL

No. in Survey held at West Hartlepool Date, First Survey 2nd July Last Survey 4th July 1928

S.S. "ALPHACCA"

(Number of Visits) Gross Tons Net

Master Built at Dundeland By whom built Wm Gray & Co. Ltd. Yard No. 1004 When built 1928

Engines made at West Hartlepool By whom made Central Marine Engine Engine No. 1004 When made 1928

Boilers made at ditto By whom made Works Boiler No. 1004 When made 1928

Nominal Horse Power Owners Port belonging to

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel D. Cobille & Sons, Ltd. (Letter for Record r.)

Total Heating Surface of Boilers 5562 sq. ft. Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers 2 single ended (See separate Rpt on 3rd boiler) Working Pressure 200 lbs

Tested by hydraulic pressure to 300 lb Date of test 10.5.28 No. of Certificate 3738. Can each boiler be worked separately yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 Cookburn no improved high lift

Area of each set of valves per boiler per Rule 8.10" as fitted 11.88" Pressure to which they are adjusted 205 lb 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 14" 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 15'-3" Length 12'-6" Shell plates: Material Steel Tensile strength 31/35.

Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams D.P. Lab

long. seams J.R. D.B.S. Diameter of rivet holes in circ. seams 1 1/2" Pitch of rivets 4" 9/8"

Percentage of strength of circ. end seams plate 66.2 rivets 42 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.5 rivets 86.5 combined 87.8 Working pressure of shell by Rules 200 lbs

Thickness of butt straps outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 Deightons 3cf

Material Steel Tensile strength 26/30 Smallest outside diameter 42 1/16"

Length of plain part top bottom Thickness of plates crown 2 1/2" bottom 3/2" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 224 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 3/2" Pitch of stays 20" x 21"

How are stays secured Double nuts & washers Working pressure by Rules 206 lb

Tube plates: Material front Steel back Steel Tensile strength 26/30 Thickness 15/16" 7/8"

Mean pitch of stay tubes in nests 12 3/4" x 8 1/2" Pitch across wide water spaces 15" Working pressure front 204 lbs back 245 lbs

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

at centre 9" x 1 3/4" Length as per Rule 34 3/8" Distance apart 9 1/2" No. and pitch of stays

in each 3 9 1/2" Working pressure by Rules 206 lb Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 1"

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

Working pressure by Rules 220 lb Front plate at bottom: Material Steel Tensile strength 26/30

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

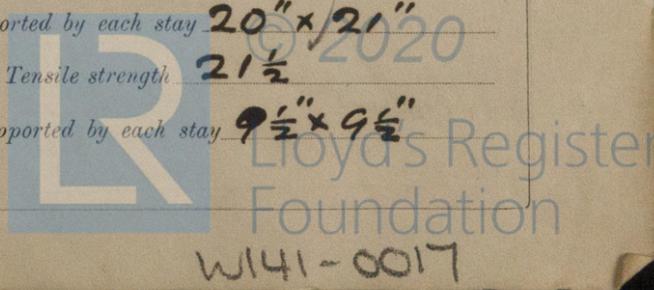
Pitch of stays at wide water space 15" x 9 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 229 lb Main stays: Material Steel Tensile strength 28/32

Diameter At body of stay, 3 1/2" No. of threads per inch 6 Area supported by each stay 20" x 21"

Working pressure by Rules 225 lb Screw stays: Material Iron Tensile strength 21 1/2

Diameter At turned off part, 1 3/8" No. of threads per inch 9 Area supported by each stay 9 1/2" x 9 1/2"



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Working pressure by Rules **236 lbs** Are the stays drilled at the outer ends **no** Margin stays: Diameter ^{At turned off part.} **2 1/2"** _{or Over threads}
 No. of threads per inch **9** Area supported by each stay **9 1/2" x 12 1/4"** Working pressure by Rules **244 lbs**
 Tubes: Material **Iron** External diameter ^{Plain} **3** Thickness ^{8 W.G.} **4 1/2"** No. of threads per inch **9**
 Pitch of tubes **4 1/4" x 4 1/4"** Working pressure by Rules **250 or 245 lbs.** Manhole compensation: Size of opening in shell plate **16" x 20"** Section of compensating ring **22" x 1 1/4"** No. of rivets and diameter of rivet holes **32** **1 13/32"**
 Outer row rivet pitch at ends **9 3/8"** 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 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 **Robinson's smoke tube** Manufacturers of Tubes **The Superheater Company Ltd.**
 Number of elements **64 each boiler** Material of tubes **S.D. Steel** Steel castings **Forging** Internal diameter and thickness of tubes **16 mm 3 mm**
 Material of headers **Forged steel** Tensile strength _____ Thickness **5/8"** 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 **1.77 sq"** Are the safety valves fitted with easing gear **yes** Working pressure as per Rules **200 lb** Pressure to which the safety valves are adjusted **205 lb** Hydraulic test pressure: tubes **600 lb** castings **600 lb** and after assembly in place **600 lb** Are drain cocks or valves fitted to free the superheater from water where necessary **yes**
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with **yes.**

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

(M. Gray & Co. Ltd.)

Manufacturer.

Dates of Survey ^{During progress of work in shops - -} _____
 while building ^{During erection on board vessel - - -} _____

All machinery rep.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **yes**

Total No. of visits _____

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

See accompanying machinery report.

Survey Fee £ **10.7.8** When applied for, **10.7.8** 1928
 Travelling Expenses (if any) £ : : When received, _____ 1928

R. D. Shilston.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

JUL 13 1928

Assigned

See S.P. attached



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