Rpt. 5a.

REPORT ON BOILERS.

No. 95720

Received at London Office DEC 11 1937

Date of writing Report ____ 19__ When handed in at Local Office 10 DEC 1937 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Wallsend. Date, First Survey 24 March Last Survey 6 Dec 1937

(Number of Visits ____)

on the SS "LAFIAN" Tons { Gross 4876 / Net 2865

Master ____ Built at Haverton Hill By whom built Furness S. B. Co. Ltd. Yard No. 274 When built 1937

Engines made at Wallsend By whom made R. E. Marine Engineering Co. Ltd. Engine No. 2888 When made 1937

Boilers made at Wallsend By whom made R. E. Marine Engineering Co. Ltd. Boiler No. 2888 When made 1937

Nominal Horse Power ____ Owners United Africa Co. Ltd. Port belonging to Freetown

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MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY~~.

Manufacturers of Steel Steel Co of Scotland (Letter for Record S)

Total Heating Surface of Boilers 5630 ☐ft Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Two single ended multitubular **Working Pressure** 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 15-10-37 No. of Certificate 741 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 53 ☐ft No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler { per Rule 14·8 □" / as fitted ____ } Pressure to which they are adjusted 225 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 5'-10" Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-8 9/16" Length 12'-6" **Shell plates:** Material Steel Tensile strength 29-33 tons

Thickness 1 17/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end L.D.R / inter. — }

long. seams T.R. dbl Straps Diameter of rivet holes in { circ. seams 1 9/16" / long. seams 1 9/16" } Pitch of rivets { 4 8/8" / 10 13/16" }

Percentage of strength of circ. end seams { plate 62·1 / rivets 48·2 } Percentage of strength of circ. intermediate seam { plate — / rivets — }

Percentage of strength of longitudinal joint { plate 85·5 / rivets 86·0 / combined 88·2 } Working pressure of shell by Rules 224 lbs

Thickness of butt straps { outer 1 3/16" / inner 15/16" } **No. and Description of Furnaces in each Boiler** Three deighton

Material Steel Tensile strength 26-30 tons Smallest outside diameter 47 11/16"

Length of plain part { top ✓ / bottom ✓ } Thickness of plates { crown / bottom } 23/32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 221 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/2" Pitch of stays 23" × 20 13/16"

How are stays secured Double nuts Working pressure by Rules 220 lbs

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

Mean pitch of stay tubes in nests 8·7" Pitch across wide water spaces 14 1/2" Working pressure { front 227 lbs / back 364 lbs }

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons Depth and thickness of girder at centre 11 1/2" × 2@1" Length as per Rule 46 1/2" Distance apart 8 1/2" No. and pitch of stays in each 3 @ 10 3/4" Working pressure by Rules 230 lbs

Combustion chamber plates: Material Steel Tensile strength 26-30 tons Thickness: Sides 25/32" Back 3/4" Top 25/32" Bottom 7/8"

Pitch of stays to ditto: Sides 10 3/4" × 8 1/8" Back 10 1/2" × 7 3/4" Top 10 3/4" × 8 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 222 lbs **Front plate at bottom:** Material Steel Tensile strength 26-30 tons Thickness 1"

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

Pitch of stays at wide water space 17 1/2" × 8" Are stays fitted with nuts or riveted over Nuts

Working Pressure 223 lbs **Main stays:** Material Steel Tensile strength 28-32 tons

Diameter { At body of stay, or Over threads 3 1/2" / — } No. of threads per inch 6 Area supported by each stay 478·6 □"

Working pressure by Rules 226 lbs **Screw stays:** Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, or Over threads 1 3/4" × 1 7/8" / — } No. of threads per inch 9 Area supported by each stay 95·4 □"

Working pressure by Rules 223 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, — / Over threads 2 1/8" }

No. of threads per inch 9 Area supported by each stay 120 □" Working pressure by Rules 237 lbs

Tubes: Material Stel S.D. External diameter { Plain 2½" / Stay 2½" } Thickness { 8S / 7/16" & 3/8" } No. of threaas per inch 9

Pitch of tubes 1 1/4" × 1 1/2" 3¼ × 3¼ Working pressure by Rules 267 lbs **Manhole compensation:** Size of opening in END ~~shell~~ plate 16" × 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 4 5/16" **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 N.E.M. Combustion Chamber Manufacturers of { Tubes Stewart & Lloyds / Steel forgings Stewart & Lloyds / Steel castings }

Number of elements 32 Material of tubes Stel S.D. ~~Internal~~ EXT diameter and thickness of tubes 1½: 7+9G

Material of headers Stel Tensile strength 26-28 tons Thickness 1" Can the superheater be shut off and the boiler be worked separately No 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 3·1416 □" Are the safety valves fitted with easing gear Yes Working pressure as per Rules 220 lbs Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes 1500 lbs forgings and castings 660 lbs and after assembly in place 440 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 foregoing is a correct description,

THE NORTH EASTERN MARINE ENGINEERING CO., LTD.

John Neill Manufacturer.

Director & General Manager

Dates of Survey { During progress of work in shops - - } See Machy Report. { During erection on board vessel - - - } Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "Conakrian" Rept N° 95604

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey, in accordance with the Rules and approved plan, the materials and workmanship are are good; on completion they were tested by water pressure to 380 lbs per square inch, and found tight and satisfactory. They have been fitted on board in an efficient manner, tried under steam and found satisfactory.

Survey Fee ... ... £ Charged on Machy Rpt When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

J. K. Selles.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 DEC 1937

Assigned See Mdb F.E. 16175