

# REPORT ON BOILERS.

No. 32715

Received at London Office 5 OCT 1939

30 SEP 1939

Port of SUNDERLAND.

Writing Report

When handed in at Local Office

Survey held at

SUNDERLAND.

Date, First Survey

Last Survey Sep 28 1939

on the

CORMARSH

(Number of Visits) Gross Tons Net

Built at *Burnt Island* By whom built *Burnt Island S.P.C.* Yard No. *231* When built *1939*

Engines made at *Sunderland* By whom made *N. E. Marine Eng. Co. (1938) Ltd* Engine No. *2943* When made *1939*

Boilers made at *do.* By whom made *do.* Boiler No. *do.* When made *do.*

Indicated Horse Power *244* Owners *Garaf Colliers. Ltd* Port belonging to *Sunderland.*

## WATER TUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Appley Frodingham Steel Co. Ltd.* (Letter for Record *S*)

Heating Surface of Boilers *3396* Is forced draught fitted *yes* Coal or Oil fired *coal*

Kind and Description of Boilers *2 Multitubular Cylindrical* Working Pressure *220 lb.*

Tested by hydraulic pressure to *380 lb.* Date of test *1935/8/30* No. of Certificate *4297/8* Can each boiler be worked separately *yes*

Weight of Firegrate in each Boiler *30.75* No. and Description of safety valves to each boiler *2 Direct Spring*

Weight of each set of valves per boiler *per Rule 9.18 as fitted 9.8* Pressure to which they are adjusted *Are they fitted with easing gear*

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler *—*

Least distance between boilers or uptakes and bunkers or woodwork *19"* Is oil fuel carried in the double bottom under boilers *no*

Least distance between shell of boiler and tank top plating *2'-11 1/2"* Is the bottom of the boiler insulated *yes*

Least internal dia. of boilers *12'-9 1/32"* Length *11'-0"* Shell plates: Material *Steel* Tensile strength *29/33 tons/in<sup>2</sup>*

Thickness *15/64"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams *end D.R.L. inter.*

Seams *T.R.D.B.S.* Diameter of rivet holes in *circ. seams 1 9/32" long. seams* Pitch of rivets *3 3/4" 9"*

Percentage of strength of circ. end seams *plate 65.8 rivets 43.8* Percentage of strength of circ. intermediate seam *plate — rivets —*

Percentage of strength of longitudinal joint *plate 85.76 rivets 86.36 combined 88.79* Working pressure of shell by Rules *220.9 lb.*

Thickness of butt straps *outer 15/16" inner 1/16"* No. and Description of Furnaces in each Boiler *3 Dighton, Stephen Junley Reeds*

Material *Steel* Tensile strength *26/30 tons/in<sup>2</sup>* Smallest outside diameter *2'-11 1/32"*

Thickness of plain part *top — bottom —* Thickness of plates *35/64"* Description of longitudinal joint *weld*

Provisions of stiffening rings on furnace or c.e. bottom *—* Working pressure of furnace by Rules *224 lb.*

Stays in steam space: Material *Steel* Tensile strength *26/30 tons/in<sup>2</sup>* Thickness *17/32"* Pitch of stays *18 3/8" x 17"*

Are stays secured *Double nuts* Working pressure by Rules *221 lb.*

Front plates: Material *Steel* Tensile strength *26/30 tons/in<sup>2</sup>* Thickness *31/32" 13/16"*

Pitch of stay tubes in nests *10.2"* Pitch across wide water spaces *14 1/2" x 8 7/8"* Working pressure *front 223 lb. back 227 lb.*

Stays to combustion chamber tops: Material *Steel* Tensile strength *28/32 tons/in<sup>2</sup>* Depth and thickness of girder

Size *8 1/8" x 1 1/2"* Length as per Rule *30.4"* Distance apart *8 1/4"* No. and pitch of stays

Thickness *2, 9 1/2"* Working pressure by Rules *224 lb.* Combustion chamber plates: Material *Steel*

Tensile strength *26/30 tons/in<sup>2</sup>* Thickness: Sides *25/32"* Back *25/32"* Top *25/32"* Bottom *25/32"*

Pitch of stays to ditto: Sides *10 3/16" x 9 1/2"* Back *10" x 9 5/8"* Top *8 1/4" x 9 1/2"* Are stays fitted with nuts or riveted over *nuts fitted*

Working pressure by Rules *222 lb.* Front plate at bottom: Material *Steel* Tensile strength *26/30 tons/in<sup>2</sup>*

Thickness *31/32"* Lower back plate: Material *Steel* Tensile strength *26/30 tons/in<sup>2</sup>* Thickness *15/16"*

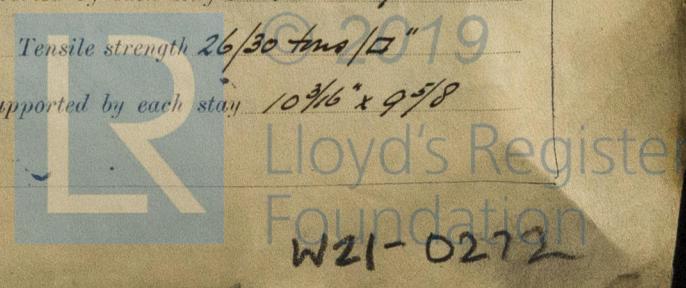
Pitch of stays at wide water space *14 1/2" x 9 5/8"* Are stays fitted with nuts or riveted over *nuts fitted*

Working Pressure *238 lb.* Main stays: Material *Steel* Tensile strength *28/32 tons/in<sup>2</sup>*

At body of stay, *27/8"* No. of threads per inch *6* Area supported by each stay *18 3/8" x 17"*

Over threads *3/4"* Working pressure by Rules *230 lb.* Screw stays: Material *Steel* Tensile strength *26/30 tons/in<sup>2</sup>*

At turned off part, *17/8"* No. of threads per inch *9* Area supported by each stay *10 3/16" x 9 5/8"*



Working pressure by Rules 220 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>(At turned off part,</sup> 2" <sup>or</sup> <sup>Over threads</sup> 2" ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 11 1/16" x 9 5/8" Working pressure by Rules 220 lbs.  
 Tubes: Material S.D. Steel External diameter <sup>Plain</sup> 3 1/4" ✓ Thickness <sup>8 W.G.</sup> 1/2, 7/16, 3/8, 5/16, 1/4 ✓ No. of threads per inch 9  
 Pitch of tubes 4 7/16" x 4 3/8" ✓ Working pressure by Rules 220 lbs. Manhole compensation: Size of opening —  
 END shell plate 16" x 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 3 7/8" ✓ Steam Dome: Material —  
 Tensile strength — Thickness of shell — Description of longitudinal joint —  
 Diameter of rivet holes — Pitch of rivets — Percentage of strength of joint <sup>Plate</sup> — <sup>Rivets</sup> —  
 Internal diameter — Working pressure by Rules — Thickness of crown — No. and diam. of stays —  
 How connected to shell — Inner radius of crown — Working pressure by Rules —  
 Size of doubling plate under dome — Diameter of rivet holes and of rivets in outer row in dome connection to shell —

Type of Superheater Smoke tube Manufacturers of Tubes Stewart & Lloyd, Ltd.  
 Number of elements 84 Material of tubes S.D. Steel Steel castings Fordingham Steel Co.  
 Material of headers Forged steel Tensile strength 26/30 tons/sq. in. Thickness 1 1/8" Can the superheater be shut 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 1/4 sq. in. Are the safety valves fitted with easing gear yes Working pressure by Rules 220 lbs. Pressure to which the safety valves are adjusted 225 lbs. Hydraulic test pressure 500 lbs.  
 tubes 1500 lbs., castings 660 lbs. and after assembly in place 500 lbs. Are drain cocks or valves to free the superheater from water where necessary yes.

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

THE NORTH-EASTERN MARINE ENGINEERING CO. LTD. 1899-1939  
 The foregoing is a correct description,  
 J. M. Hubert. Manuf.  
 RESIDENT MANAGER.

Dates of Survey <sup>During progress of work in shops - - -</sup> — Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 while building <sup>During erection on board vessel - - -</sup> — Total No. of visits —

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

*These boilers have been constructed under Special Survey in accordance with the approved plans, Secretary's letters & the requirements of the Rules. Workmanship and materials are good. In recommendation please see Rpt H.*

*J. R. Horne*

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

Committee's Minute TUE. 7. NOV 1939

Assigned See L.R. J.E. 19960

Engineer Surveyor to Lloyd's Register of Ship



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