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REPORT ON BOILERS.

No. 80452

Received at London Office 15 JUN 1926

Date of writing Report 11-6-1926 When handed in at Local Office 14-6-1926 Port of Newcastle-on-Tyne
No. in Survey held at Hebburn Date, First Survey 14 April Last Survey 4 June 1926
Reg. Book. (Number of Visits 6.) Tons Gross Net
on the Boiler for Steamer "TAYRA"
Master Built at Aberdeen By whom built Alex. Hall & Co. Ltd. Yard No. - When built 1926
Engines made at - By whom made - Engine No. - When made -
Boilers made at Hebburn By whom made Palmers S. & J. Co. Ltd. Boiler No. 1069 When made 1926
Nominal Horse Power - Owners Baselee & Sons, London Port belonging to -

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record (S) ✓)
Total Heating Surface of Boilers 1610 sq. ft. Is forced draught fitted
No. and Description of Boiler 1 S.E. multitubular Working Pressure 190 lbs. ✓
Tested by hydraulic pressure to 335 lbs. Date of test 4/6/26 No. of Certificate 106 Can each boiler be worked separately ✓
Area of Firegrate in each Boiler 44.5 No. and Description of safety valves to each boiler
Area of each set of valves per boiler {per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear
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 Is oil fuel carried in the double bottom under boilers
Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated
Largest internal dia. of boilers 13 Length 10' 6" Shell plates: Material Steel Tensile strength 28-32 tons
Thickness 1 1/8 Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. inter 3 5/8
long. seams T.R. D.B.S. Diameter of rivet holes in {circ. seams 1 3/8 long. seams 1 3/8 Pitch of rivets {plate 8 3/8 rivets -
Percentage of strength of circ. end seams {plate 64.1% rivets 40.1% Percentage of strength of circ. intermediate seam {plate - rivets -
Percentage of strength of longitudinal joint {plate 85.8% rivets 90.5% Working pressure of shell by Rules 190.5 lbs. ✓
Thickness of butt straps {outer 1 1/8 inner 1 1/8 No. and Description of Furnaces in each Boiler Two plain ✓
Material Steel Tensile strength 26-30 tons Smallest outside diameter 3' 9 1/2" ✓
Length of plain part {top 80.5" bottom - Thickness of plates {crown 1 3/8 bottom 1 1/8 Description of longitudinal joint WELD
Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 190.6 lbs. ✓
End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8 Pitch of stays 19.5" x 17" ✓
How are stays secured Double nuts and washers Working pressure by Rules 191 lbs. ✓
Tube plates: Material {front Steel Tensile strength 26-30 tons Thickness {front 29/32 back 3/4 314 lbs. ✓
Mean pitch of stay tubes in nests 9 1/2" x 9 1/2" Pitch across wide water spaces 14" Working pressure {back 211.6 lbs. ✓
Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
at centre 8 3/4" x 1 1/2" Length as per Rule 2' 3 1/4" Distance apart 8 3/4" No. and pitch of stays
in each 2 @ 8 3/4" Working pressure by Rules 206 lbs. ✓ Combustion chamber plates: Material Steel
Tensile strength 26-30 tons Thickness: Sides 31/32 Back 1/16 Top 31/32 Bottom 1" ✓
Pitch of stays to ditto: Sides 8 3/4" x 8 3/4" Back 9 1/4" x 9 1/4" Top 8 3/4" x 8 3/4" Are stays fitted with nuts or riveted over NUTS
Working pressure by Rules 196.1 lbs. ✓ Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 7/8 ✓
Thickness 29/32 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 7/8 ✓
Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over NUTS
Working Pressure 219.5 lbs. ✓ Main stays: Material Steel Tensile strength 28-32 tons
Diameter {At body of stay, 3" No. of threads per inch 6 Area supported by each stay 311.5" ✓
{Over threads - Working pressure by Rules 203.4 lbs. ✓ Screw stays: Material Steel Tensile strength 26-30 tons
Diameter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 85.5" ✓
{Over threads -

Working pressure by Rules **212 LBS** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, **1 7/8"**
 No. of threads per inch **9** Area supported by each stay **74.1"** Working pressure by Rules **298.5 LBS.**
 Tubes: Material **IRON** External diameter { Plain **3 1/2"** Thickness **8 W.G.** No. of threads per inch **9**
 Pitch of tubes **4 3/4" x 4 3/4"** Working pressure by Rules **215 LBS** Manhole compensation: Size of opening in
 shell plate **20" x 16"** Section of compensating ring **2.9 1/2" x 2.5 1/2" x 1 1/2"** No. of rivets and diameter of rivet holes **32 @ 1 3/4"**
 Outer row rivet pitch at ends **8 1/2"** Depth of flange if manhole flanged **3 1/2"** 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
 Internal diameter Working pressure by Rules Thickness of crown Rivets
 stays Inner radius of crown Working pressure by Rules No. and diameter of
 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 Manufacturers of { Tubes
 Number of elements Material of tubes Steel castings
 Material of headers Tensile strength Internal diameter and thickness of tubes
 the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off and
 Area of each safety valve Are the safety valves fitted with easing gear Can the superheater be shut off and
 Rules Pressure to which the safety valves are adjusted Working pressure as per
 tubes , castings and after assembly in place Hydraulic test pressure:
 to free the superheater from water where necessary Are drain cocks or valves fitted

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with
 For **Palmers Shipbuilding & Iron Co., Ltd.**
 The foregoing is a correct description,
A. Cameron
 Manager, Hebburn Boiler Shop & Foundry. Manufacturer.

Dates of Survey { During progress of work in shops - - - **1926**
 while building { During erection on board vessel - - - **Apr. 14. 19. 26. May 11. June 3. 4.**
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) **Yes**
 Total No. of visits **6**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler was built under special survey, the workmanship and materials are good.**

This Boiler has been satisfactorily fitted on board, tried under steam and safety valves adjusted at 190 lb. per sq. in.
J. D. Boyle
Aberdeen, 21-8-26

Survey Fee £ **10 : 15 : 0** When applied for, **14 JUN 1926**
 Travelling Expenses (if any) £ - : - : - When received, **See Letter to Abn. C. 4. 29-7-26**
Thomas Napier
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned **see Minute on Abn. Rpt 14476**