

## REPORT ON BOILERS.

No. 29270

Received at London Office 3 MAY 1926

Date of writing Report 1<sup>st</sup> May 1926 When handed in at Local Office 1<sup>st</sup> May 1926 Port of SunderlandNo. in Surrey held at Sunderland Date, First Survey Last Survey 24<sup>th</sup> April 1926

41569 on the S.S. "ZAPARA" (Number of Visits ) Tons { Gross Net

Master Built at Newcastle By whom built Palmer C L Yard No. 960 When built 1926

Engines made at Sunderland By whom made MacColl & Pallock Engine No. 349 When made 1926

Boilers made at Sunderland By whom made MacColl & Pallock Boiler No. 349 When made 1926

Nominal Horse Power 192 Owners Gulf Refining Co Port belonging to

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

Manufacturers of Steel The Steel Company of Scotland Limited (Letter for Record (S) ✓)

Total Heating Surface of Boilers 3452.5 Is forced draught fitted No ✓ Coal or Oil fired Oil ✓

No. and Description of Boilers Two - Single ended marine type 23B Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 23-2-26 No. of Certificate 3931 Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler Two - Direct Acting loaded.

Area of each set of valves per boiler { per Rule 13.28 sq. ft. as fitted 14.12 sq. ft. 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 Donkey Boiler not fitted ✓

Smallest distance between ~~boilers or uptakes and bunkers or woodwork~~ 6' 11" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 24 3/4" Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 13' 0" ✓ Length 11' 6" ✓ Shell plates: Material Steel ✓ Tensile strength 28 to 32 tons ✓

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. Lap ✓ inter. 3 3/8" ✓

long. seams T.R.D.B.S. ✓ Diameter of rivet holes in { circ. seams 1 3/16" ✓ long. seams 1 3/16" ✓ Pitch of rivets { 8 3/8" ✓

Percentage of strength of circ. end seams { plate 69.3 rivets 42.85 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 85.38 rivets 95.8 combined 89.98 Working pressure of shell by Rules 183.8 lbs ✓

Thickness of butt straps { outer 1 5/16" ✓ inner 1 1/16" ✓ No. and Description of Furnaces in each Boiler 2 - Dighton 200 ✓

Material Steel Tensile strength 26 to 30 tons ✓ Smallest outside diameter 3' 10 5/16" ✓

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1 9/32" ✓ bottom 1 3/32" ✓ Description of longitudinal joint Welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 184 lbs ✓

End plates in steam space: Material Steel ✓ Tensile strength 26 to 30 tons ✓ Thickness 1 5/32" ✓ Pitch of stays 22" x 18 1/2" ✓

How are stays secured D. Nuts and Washers - Centre stays ✓ Working pressure by Rules 180.3 lbs ✓

Tube plates: Material { front Steel ✓ back Steel ✓ Tensile strength { 26 to 30 tons ✓ Thickness { 2 3/32" ✓ 2 3/32" ✓

Mean pitch of stay tubes in nests 10.59" ✓ Pitch across wide water spaces 14" ✓ Working pressure { front 184 lbs ✓ back 195 lbs ✓

Girders to combustion chamber tops: Material Steel ✓ Tensile strength 26 to 30 tons ✓ Depth and thickness of girder at centre 2 @ 8" x 7/8" ✓ Length as per Rule 33" ✓ Distance apart 9" ✓ No. and pitch of stays in each 2 @ 10 3/8" ✓ Working pressure by Rules 183.8 lbs ✓

Tensile strength 26 to 30 tons ✓ Thickness: Sides 1/16" ✓ Back 2 3/32" ✓ Top 2 3/32" ✓ Bottom 1/16" ✓

Pitch of stays to ditto: Sides 8 5/8" x 10 3/8" ✓ Back 8 5/8" x 9 1/2" ✓ Top 9 x 10 3/8" ✓ Are stays fitted with nuts or riveted over Nuts in C.C. ✓

Working pressure by Rules Sides 181.5 lbs Back 182 lbs Front plate at bottom: Material Steel Tensile strength 26 to 30 tons ✓

Thickness 2 3/32" ✓ Lower back plate: Material Steel ✓ Tensile strength 26 to 30 tons ✓ Thickness 1 3/16" ✓

Pitch of stays at wide water space 13" x 8 5/8" Are stays fitted with nuts or riveted over 2/4 in stays fitted with nuts

Working Pressure 220 lbs. Main stays: Material Steel Tensile strength 28 to 32 tons ✓

Diameter { At body of stay } 2 Centre stays 3 3/8" dia ✓ { Over threads } Remainder 3" dia ✓ No. of threads per inch 6 ✓ Area supported by each stay 4.07 sq. in ✓

Working pressure by Rules 181 Screw stays: Material Steel Tensile strength 26 to 30 tons ✓

Diameter { At turned off part } 1 3/4" sides ✓ 1 5/8" back ✓ { Over threads } No. of threads per inch 9 ✓ Area supported by each stay 81.9 (back) ✓



Working pressure by Rules *185.8 lb (back)* Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, *1 3/4"* or Over threads *1 3/4"* ✓

No. of threads per inch *9* ✓ Area supported by each stay *94.03 sq"* Working pressure by Rules *184 lb* ✓

Tubes: Material *Wrought Iron* External diameter { Plain *3"* Thickness *5/16"* No. of threads per inch *9* ✓

Pitch of tubes *4 5/16" x 4 1/8"* Working pressure by Rules *190 lb* ✓ Stay tubes *229 lb* ✓ Manhole compensation: Size of opening *32 @ 1 3/16"* ✓

shell plate *16" x 12"* ✓ Section of compensating ring *2 x 6" x 1 3/2"* ✓ No. of rivets and diameter of rivet holes *32 @ 1 3/16"* ✓

Outer row rivet pitch at ends *8 1/8"* ✓ Depth of flange if manhole flanged *✓* 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

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

Number of elements Material of tubes Manufacturers of { Tubes Steel castings Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off at

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 pressure as per

Rules Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes, castings and after assembly in place Are drain cocks or valves fitted

to free the superheater from water where necessary

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *Yes*

The foregoing is a correct description,  
PER PRO MACCOLL & POLLOCK LTD

*J. H. Pilling*

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

*Please see machinery report.*

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

Total No. of visits

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

*The materials and workmanship are good.  
The boilers have been constructed under special survey and satisfactory fixed in the vessel*

Survey Fee ... .. £  
Travelling Expenses (if any) £

*See machinery report*

When applied for, 192  
When received, 192

*George Anderson*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

MAY 1921

Assigned

*See Report attached*



© 2020  
Lloyd's Register  
Foundation