Rpt. 5a.

REPORT ON BOILERS. No. 29273

Date of writing Report 192 When handed in at Local Office 19 MAY 1926 192 Received at London Office 20 MAY 1926 20 MAY 1926

No. in Book. Survey held at Sunderland Port of Sunderland

on the S. S. "TOAS" Date, First Survey ✓ Last Survey May 13 1926

(Number of Visits ✓) Tons { Gross / Net

ster Built at Newcastle By whom built Palmers C° Ld Yard No. 961 When built 1926

gines made at Sunderland By whom made MacColl & Pollock Engine No. 350 When made 1926

lers made at Sunderland By whom made MacColl & Pollock Boiler No. 350 When made 1926

minal Horse Power 192 Owners Gulf Refining C° Ld. Port belonging to

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ULTITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY~~

nufacturers of Steel The Steel Company of Scotland ✓

al Heating Surface of Boilers 3452.8 ft. ✓ Is forced draught fitted No ✓ Coal or Oil fired Oil ✓ (Letter for Record (S) ✓

and Description of Boilers Two - Single ended marine type ✓ **Working Pressure** 180 lbs. ✓

ted by hydraulic pressure to 320 lbs. Date of test 26-3-26 ✓ No. of Certificate 3932 ✓ Can each boiler be worked separately Yes ✓

a of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler Two - Direct spring loaded ✓

a of each set of valves per boiler { per Rule 13·28 □" / as fitted 14·12 □" ✓ Pressure to which they are adjusted 185 lbs ✓ Are they fitted with easing gear Yes ✓

ase of donkey boilers, state whether steam from main boilers can enter the donkey boiler Donkey Boiler not fitted ✓

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

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

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

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

seams T.R. D.B.S. ✓ Diameter of rivet holes in { circ. seams 1 3/16" ✓ / long. seams 1 3/16" ✓ Pitch of rivets { 3 7/8" ✓ / 8 1/8" ✓

entage of strength of circ. end seams { plate 69·3 ✓ / rivets 42·85 ✓ Percentage of strength of circ. intermediate seam { plate ✓ / rivets ✓

entage of strength of longitudinal joint { plate 85·38 ✓ / rivets 95·8 ✓ / combined 89·98 ✓ Working pressure of shell by Rules 183·8 lbs □" ✓

kness of butt straps { outer 15/16" ✓ / inner 1 1/16" ✓ **No. and Description of Furnaces in each Boiler** 2 of Two - Deighton ✓

rial Steel ✓ Tensile strength 26 to 30 tons ✓ Smallest outside diameter 3'-10 15/16" ✓

th of plain part { top ✓ / bottom ✓ Thickness of plates { crown / bottom } 19/32" ✓ Description of longitudinal joint welded ✓

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

plates in steam space: Material Steel ✓ Tensile strength 26 to 30 Tons ✓ Thickness 15/32" ✓ Pitch of stays 22 × 18 1/2" ✓

are stays secured D. Nuts and Washers - Centre stays ✓ Working pressure by Rules 180·3 lbs □" ✓

plates: Material { front / back } Steel ✓ Tensile strength { 26 to 30 tons ✓ } Thickness { 27/32" / 25/32" ✓

pitch of stay tubes in nests 10·59" ✓ Pitch across wide water spaces 14" ✓ Working pressure { front 184 lbs" / back 195 lbs" ✓

rs to combustion chamber tops: Material Steel ✓ Tensile strength 26 to 30 tons □" ✓ Depth and thickness of girder

tre 2 @ 8" × 7/8" ✓ Length as per Rule 33" ✓ Distance apart 9" ✓ No. and pitch of stays

h 2 @ 10 3/8" ✓ Working pressure by Rules 183·8 lbs □" ✓ **Combustion chamber plates:** Material Steel ✓

le strength 26 to 30 tons ✓ Thickness: Sides 11/16" ✓ Back 21/32" ✓ Top 23/32" ✓ Bottom 11/16" ✓

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

ng pressure by Rules Sides 181·5 lbs Top 192·8 lbs Back 182 lbs **Front plate at bottom:** Material Steel ✓ Tensile strength 26 to 30 tons ✓

ness 27/32" ✓ **Lower back plate:** Material Steel ✓ Tensile strength 26 to 30 tons ✓ Thickness 13/16" ✓

of stays at wide water space 13" × 8 5/8" ✓ Are stays fitted with nuts or riveted over Margin stays fitted with nuts ✓

ng Pressure 220 lbs ✓ **Main stays:** Material Steel ✓ Tensile strength 28 to 32 tons ✓

er { At body of stay, / or / Over threads } 2 Centre stays 3 1/8" dia ✓ / Remainder 3" dia ✓ No. of threads per inch 6 ✓ Area supported by each stay 404 sq ins

ng pressure by Rules 181 lbs ✓ **Screw stays:** Material Steel ✓ Tensile strength 26 to 30 tons □" ✓

er { At turned off part, / or / Over threads } 1 3/4" Sides 1 5/8" Back ✓ No. of threads per inch 9 ✓ Area supported by each stay 81·9 □" ✓

of Shipping

Rpt. 13.

RE

Date of writ

No. in Reg. Book

Built at

Owners

Electric L

Working pressure by Rules 185·8 lbs (Load) *Are the stays drilled at the outer ends* No ✓ *Margin stays: Diameter* { *At turned off part* / *Over threads* } 1¾" ✓

No. of threads per inch 9 ✓ *Area supported by each stay* 94·03 d" ✓ *Working pressure by Rules* 184 lbs.

Tubes: *Material* Wrot Iron ✓ *External diameter* { *Plain* 3" ✓ / *Stay* 3" ✓ } *Thickness* { 9 W.G ✓ / 5/16" ✓ } *No. of threads per inch* 9 ✓

Pitch of tubes 4 5/16 × 4 1/8 ✓ *Working pressure by Rules* Plain Tubes 190 lbs. Stay tubes 224 in W.W. Shell 206 **Manhole compensation:** *Size of opening*

shell plate 16" × 12" ✓ *Section of compensating ring* 2 × 6 × 1 3/32" ✓ *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 pi*

of rivets in outer row in dome connection to shell

Type of Superheater *Manufacturers of* { *Tubes* / *Steel castings* }

Number of elements *Material of tubes* *Internal diameter and thickness of tubes*

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

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*

Rules *Pressure to which the safety valves are adjusted* *Hydraulic test pressu*

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

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

Manufactu

Dates of Survey while building { *During progress of work in shops* - - / *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 satisfactorily fitted in the vessel

Survey Fee ... ... £ See Machinery Report :

Travelling Expenses (if any) £ :

When applied for, 192

When received, 192

George Anderson.

Engineer Surveyor to Lloyd's Register of Shipp

TUES. 8 JUN 1926 ✓

Committee's Minute

Assigned See attached J.C. Rpt on mach'y

System of

Pressure o

Direct or

If alternatin

Has the **Aut**

Generators

are they over

Where more

series with ea

Are all termi

or short circu

Position of

is the ventila

if situated

are their axis

Earthing, *a*

their respective

Main Switch

a fuse on each

Switchboard

are they protec

woodwork or o

are they constr

permanently h

insulated from

frame effectivel

Ye

bars

Main Switch

4 fuses

Instruments

Earth Testing

comple

Switches, Circ

Section and