

# REPORT ON BOILERS.

12 JUL 1926

No. 80324

Received at London Office

24 APR 1926

Writing Report 19-4-1926 When handed in at Local Office 23-4-1926 Port of Newcastle-on-Tyne

Survey held at Hebburn Date, First Survey 23 October 1925 Last Survey 16 March 1926

on the S. Tug FOREMOST No. 41

(Number of Visits 16) Tons { Gross 244 Net 12

Built at Aberdeen By whom built Alex. Hall & Co. Ltd. Yard No. 597 When built 1926

made at Aberdeen By whom made Alex. Hall & Co. Ltd. Engine No. 295 When made 1926

made at Hebburn By whom made Palmers S.B. & I. Co. Ltd. Boiler No. 1059 When made 1926

Horse Power - Owners James Dredging Co. Ltd. & Transport Co. Ltd. Port belonging to London.

## TITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmannrohren Werk. Abt. Schulz Knaand, Huchingen (Letter for Record S)

Heating Surface of Boilers 1984 sq. ft. Is forced draught fitted No Coal or Oil fired Coal

26 Description of Boilers One, cyl. mult. S.E. boiler Working Pressure 185 lbs. sq. in.

by hydraulic pressure to 328 lbs. Date of test 16-4-26 No. of Certificate 9990 Can each boiler be worked separately

of Firegrate in each Boiler 50 sq. ft. No. and Description of safety valves to each boiler Two Spring loaded.

of each set of valves per boiler { per Rule 12.4 sq. in. as fitted 14.14 sq. in. Pressure to which they are adjusted 190 lbs. sq. in. Are they fitted with easing gear Yes

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

Is oil fuel carried in the double bottom under boilers No

Is the bottom of the boiler insulated

Internal dia. of boilers 14'-0" Length 11'-6" Shell plates: Material Steel Tensile strength 28.32 tons

Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. inter. 4" 4" 8 3/4"

Leams T.R., D.B.S. Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets { 8 3/4"

Percentage of strength of circ. end seams { plate 68.75% rivets 63% Percentage of strength of circ. intermediate seam { plate 86.4% rivets 91%

Working pressure of shell by Rules 188 lbs. sq. in.

Working pressure of longitudinal joint { plate 86.4% rivets 91% combined

Thickness of butt straps { outer 1 3/8" inner 1 3/8" No. and Description of Furnaces in each Boiler Two Deighton

Material Steel Tensile strength 26-30 tons Smallest outside diameter 4'-1 1/4"

Thickness of plates { crown 5/8" bottom 5/8" Description of longitudinal joint Weld

Working pressure of furnace by Rules 185 lbs. sq. in.

plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 20" x 20"

are stays secured Double nuts and washers Working pressure by Rules 196 lbs. sq. in.

plates: Material { front Steel back Steel Tensile strength { 26-30 tons 26-30 tons Thickness { 2 3/32" 3/4"

Working pressure { front 261 lbs. sq. in. back 182 lbs. sq. in.

pitch of stay tubes in nests 10'-8" Pitch across wide water spaces 14'

ers to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

entre 9 1/2" x 1 5/8" Length as per Rule 35' Distance apart 10' No. and pitch of stays

ch 3 @ 8 1/4" Working pressure by Rules 184 lbs. sq. in. Combustion chamber plates: Material Steel

ile strength 26-30 tons Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1"

of stays to ditto: Sides 8 1/2" x 10" Back 8 1/2" x 10" Top 8 1/2" x 10" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 192 lbs. sq. in. Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 2 3/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 2 3/32"

of stays at wide water space 10' x 14' Are stays fitted with nuts or riveted over Nuts

ing Pressure 196 lbs. sq. in. Main stays: Material Steel Tensile strength 28-32 tons

eter { At body of stay, 3 3/4" No. of threads per inch 6 Area supported by each stay 400 sq. in.

Over threads 200 lbs. sq. in. Screw stays: Material Steel Tensile strength 26-30 tons

Working pressure by Rules 192 lbs. sq. in. No. of threads per inch 9 Area supported by each stay 85 sq. in.

meter { At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 85 sq. in.

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Working pressure by Rules  $213 \text{ lbs.}^2$  Are the stays drilled at the outer ends *No* ✓ Margin stays: Diameter { At turned off part,  $1\frac{7}{8}$ " ✓  
or Over threads  
No. of threads per inch  $9$  ✓ Area supported by each stay  $85$  Working pressure by Rules  $248 \text{ lbs.}^2$  ✓  
Tubes: Material *Iron* ✓ External diameter { Plain  $3\frac{1}{2}$ " ✓ Thickness {  $5 \text{ W.G.}$  ✓ No. of threads per inch  $9$  ✓  
Stay  $3\frac{1}{2}$ " ✓  
Pitch of tubes  $4\frac{3}{4} \times 4\frac{3}{4}$  Working pressure by Rules  $215 \text{ lbs.}^2$  Manhole compensation: Size of opening  
shell plate  $16 \times 12$  Section of compensating ring  $24 \times 31 \times 1\frac{3}{4}$  ✓ No. of rivets and diameter of rivet holes  $30 @ 1\frac{1}{4}$  ✓  
Outer row rivet pitch at ends  $8\frac{3}{4}$  ✓ 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 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 a  
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

The foregoing is a correct description,  
For *Palmer's Shipbuilding & Iron Co. Ltd.* Manufactured by *A. Cameron for SHB*

Dates of Survey { During progress of work in shops - - 1925 1926  
while building { During erection on board vessel - - -  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *Yes*  
Total No. of visits *16*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
*This boiler was built under special survey, the material and workmanship are good. The boiler was tested on completion by hydraulic pressure to  $328 \text{ lbs.}^2$  and found tight.*

*This boiler has been satisfactorily fitted on board the vessel, the safety valves adjusted under steam, boiler examined under steam and found satisfactory.*  
*A. B. Forster*  
*Aberdeen*  
*9.7.26*

Survey Fee ... £ *13* : *4* : *0* When applied for, **23. APR 1926**  
Travelling Expenses (if any) £ : : When received, *26.5.* 1926

*Thomas Napier*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI 10 JUL 1926**  
Assigned *See Abn. J. E. p. 1 No. 14404*