

REPORT ON BOILERS.

No. 83546

Received at London Office 30 NOV 1928

Date of writing Report 26-11-1928 When handed in at Local Office 29-11-1928 Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book 89595 on the *Gral Hooper Dredge "Chun Ping"* Date, First Survey 9 Oct. Last Survey 23 Nov 1928

(Number of Visits 7.) Gross Tons 495 Net Tons 211.

Master Built at Leith By whom built Henry Robt & Co. Yard No. 125 When built 1929
Engines made at Glasgow By whom made McKie & Baxter Ltd. Engine No. 1234 When made 1928
Boilers made at Hebburn By whom made Palmers Co. Ltd. Boiler No. 1114 When made 1928
Nominal Horse Power Owners Priestman Bros. Ltd. Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record S)

Total Heating Surface of Boilers 980^{sq} Is forced draught fitted No Coal or Oil fired COAL

No. and Description of Boilers 1 SINGLE ENDED Working Pressure 130 LBS.

Tested by hydraulic pressure to 245 LBS. Date of test 20.11.28 No. of Certificate 317 Can each boiler be worked separately

Area of Firegrate in each Boiler 42^{sq} No. and Description of safety valves to each boiler One double Spring-loaded

Area of each set of valves per boiler (per Rule 8.42 sq" as fitted 9.82 sq" Pressure to which they are adjusted 130 lbs Are they fitted with casing gear yes.

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 4'-6" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Open-barge Is the bottom of the boiler insulated No

Largest internal dia. of boilers 11' 6" Length 10' 0" Shell plates: Material STEEL Tensile strength 28-32 TONS.

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

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1" long. seams 7/8" Pitch of rivets 3 5/8" 5 1/2"

Percentage of strength of circ. end seams plate 72.4% rivets 47.9% Percentage of strength of circ. intermediate seam plate - rivets -

Percentage of strength of longitudinal joint plate 84.1% rivets 89.61% combined - Working pressure of shell by Rules 136 LBS.

Thickness of butt straps outer 3/4" inner 3/4" No. and Description of Furnaces in each Boiler TWO PLAIN

Material STEEL Tensile strength 26-30 TONS. Smallest outside diameter 3' 10 1/4"

Length of plain part top 6'-9" bottom 7'-4" Thickness of plates crown 23/32" bottom 23/32" Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 135 LBS.

End plates in steam space: Material STEEL Tensile strength 26-30 TONS. Thickness 13/16" Pitch of stays

How are stays secured DOUBLE NUTS & WASHERS Working pressure by Rules 134 LBS.

Tube plates: Material front STEEL back " Tensile strength 26-30 TONS. Thickness 13/16" 3/4"

Mean pitch of stay tubes in nests 9 1/2" x 14 1/4" Pitch across wide water spaces 14" Working pressure front 140 LBS. back 144 LBS.

Girders to combustion chamber tops: Material STEEL Tensile strength 28-32 TONS. Depth and thickness of girder

at centre 1 1/4" x 8" Length as per Rule 2' 5 13/32" Distance apart 8" No. and pitch of stays

in each 2 @ 9 1/2" Working pressure by Rules 200 LBS. Combustion chamber plates: Material STEEL

Tensile strength 26-30 TONS. Thickness: Sides 19/32" Back 19/32" Top 19/32" Bottom 7/8"

Pitch of stays to ditto: Sides 9 1/2" x 9 1/2" Back 9 1/2" x 9 1/2" Top 8" x 9 1/2" Are stays fitted with nuts or riveted over NUTS

Working pressure by Rules 135 LBS. Front plate at bottom: Material STEEL Tensile strength 26-30 TONS.

Thickness 13/16" Lower back plate: Material STEEL Tensile strength 26-30 TONS. Thickness 13/16"

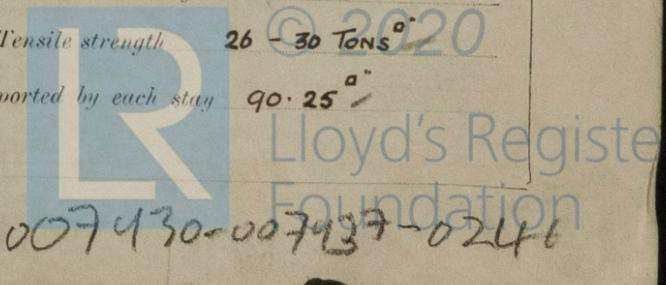
Pitch of stays at wide water space d = 20" Are stays fitted with nuts or riveted over NUTS

Working Pressure 171 LBS. Main stays: Material STEEL Tensile strength 28-32 TONS.

Diameter At body of stay, or Over threads 2 1/4" No. of threads per inch 6 Area supported by each stay 256 sq"

Working pressure by Rules 135 LBS. Screw stays: Material STEEL Tensile strength 26-30 TONS.

Diameter At turned off part, or Over threads 1 1/2" No. of threads per inch 9 Area supported by each stay 90.25 sq"



Working pressure by Rules **138 LBS.** Are the stays drilled at the outer ends **No** Margin stays: Diameter ^{At turned off part,} **1 5/8"** or ^{Over threads} **1 5/8"**

No. of threads per inch **9** Area supported by each stay **111.6** Working pressure by Rules **133 LBS.**

Tubes: Material **STEEL** External diameter ^{Plain} **3 1/2"** Thickness ^{9 W.C.} **1/4"** ^{5/16"} No. of threads per inch **9**

Pitch of tubes **4 3/4" x 4 3/4"** Working pressure by Rules **165 LBS.** Manhole compensation: Size of opening in shell plate **12" x 16"** Section of compensating ring **2.2 x 2.6 x 3/4"** No. of rivets and diameter of rivet holes **28 @ 1 5/16"**

Outer row rivet pitch at ends **5 3/8"** 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 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 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 and 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 22 inclusive for boilers been complied with **YES**

Palmer's Shipbuilding & Iron Co., Ltd.
The foregoing is a correct description,
A. Cameron per **AWB** Manufacturer.
Managers, Glasgow Boiler Shop & Foundry.

Dates of Survey ^{During progress of work in shops - -} **1928 Oct. 9. 19. 26. Nov. 2. 16. 20. 23.** Are the approved plans of boiler and superheater forwarded herewith **Yes** (If not state date of approval.)

^{while building} ^{During erection on board vessel - - -} Total No. of visits **7.**

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

This boiler has been efficiently fitted on board. On completion, its safety valves were adjusted under steam. For particulars as to class etc see Leith Rpt. No. 17531.

John Houston.

Survey Fee £ **6 : 10 : 0** When applied for, **192**

Travelling Expenses (if any) £ : : When received, **27-12 192**

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

Committee's Minute **FRI. 15 FEB 1929**

Assigned **See Rpt. attached**

