

## REPORT ON BOILERS

No. 80248  
G.N. 18605

Received at London Office

31 MAR 1926

Date of writing Report 25/3/26

When handed in at Local Office 29/3/26

Port of Newcastle-on-Tyne

No. in Survey held at  
eg. Book.

Hebburn

Date, First Survey 21<sup>st</sup> Dec/1925 Last Survey 18<sup>th</sup> March 1926

on the

Boilers No. 1063-1064 T.S. HOPPER DREDGER "CARRON WATER"

(Number of Visits 8)

Tons

Gross 1232

Net 526

Dredger

Built at Port Glasgow

By whom built Ferguson Bros. Ltd.

Yard No. 279

When built 1926

Engines made at

Port Glasgow

By whom made

Ferguson Bros. Ltd.

Engine No. 249

When made 1926

Boilers made at

Hebburn

By whom made

Palmers S.B. &amp; J. Co. Ltd.

Boiler Nos. 1063/4

When made 1926

Nominal Horse Power

Owners London Midland &amp; Scottish Rly. Co.

Port belonging to London.

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

Manufacturers of Steel Steel Company of Scotland (Letter for Record (7))

Total Heating Surface of Boilers 3500 sq. ft. Is forced draught fitted ☒ Coal or Oil fired ☒

No. and Description of Boilers Two, Cyl. multi. single ended Working Pressure 180 lbs.

Tested by hydraulic pressure to 320 lbs. Date of test 18.3.26 No. of Certificate 9981-2 Can each boiler be worked separately ☒

Area of Firegrate in each Boiler 48 sq. ft. No. and Description of safety valves to each boiler ☒

Area of each set of valves per boiler ☒ 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' 9" Length 10' 6" Shell plates: Material Steel Tensile strength 28-32 tons

Thickness 1 5/16" Are the shell plates welded or flanged No Description of riveting: circ. seams ☒ end O.R.

Long. seams T.R. D.B.S. Diameter of rivet holes in ☒ circ. seams 1 3/16" Pitch of rivets ☒ inter. 3 5/8"

Percentage of strength of circ. end seams ☒ plate 67% Percentage of strength of circ. intermediate seam ☒ plate 86%

Percentage of strength of longitudinal joint ☒ rivets 84% Working pressure of shell by Rules 185 lbs.

Combined 88.9% Thickness of butt straps ☒ outer 1 1/16" No. and Description of Furnaces in each Boiler Two, Corrugated

Material Steel Tensile strength 26-30 tons Smallest outside diameter 4' 1 1/2"

Length of plain part ☒ top 10 1/2" Thickness of plates ☒ crown 5/8" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom ☒ Working pressure of furnace by Rules 185 lbs.

Head plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 5/16" Pitch of stays 20" x 19"

How are stays secured D. nuts and washers Working pressure by Rules 183 lbs.

Head plates: Material ☒ front Steel Tensile strength 26-30 tons Thickness ☒ back 3/4"

Can pitch of stay tubes in nests 10" Pitch across wide water spaces 14" Working pressure ☒ front 246 lbs.

Orders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder ☒ back 200 lbs.

Centre 8 1/2" x 1 3/8" Length as per Rule 2' 6 3/16" Distance apart 9 3/4" No. and pitch of stays

Each 2 @ 9" Working pressure by Rules 244 lbs. Combustion chamber plates: Material Steel

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

Pitch of stays to ditto: Sides 9" x 9" Back 9" x 9" Top 9" x 9 3/4" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 185 lbs. Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 27/32"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over Nuts

Working Pressure 209 lbs. Main stays: Material Steel Tensile strength 28-32 tons

Gage ☒ At body of stay 3 1/2" No. of threads per inch 6 Area supported by each stay 380 sq. in.

Working pressure by Rules 211 lbs. Screw stays: Material Iron Tensile strength 21 1/2 tons

Gage ☒ At turned off part 1 3/4" No. of threads per inch 9 Area supported by each stay 81 sq. in.

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Working pressure by Rules  $224\frac{1}{2}$  Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8 or Over threads 1 7/8

No. of threads per inch 9 Area supported by each stay 103.5 Working pressure by Rules 203 1/2

Tubes: Material Iron External diameter { Plain 3 1/4 Stay 3 1/4 Thickness { 8 W.C. 1/4 + 5/16 No. of threads per inch 9

Pitch of tubes 4 1/2 x 4 1/2 Working pressure by Rules 230 1/2 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 3/16 No. of rivets and diameter of rivet holes 32 @ 1 1/2

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 Rivets \_\_\_\_\_

Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of 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 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 \_\_\_\_\_ Hydraulic test pressure \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_

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,

A. Cameron for M.B. Manufacturers

Dates of Survey { During progress of work in shops - - - Dec. 21, Jan. 5, 25, Feb. 2, 18, Mar. 8, 12, 18. Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.) Please return for duplicate Boilers.

while building { During erection on board vessel - - - \_\_\_\_\_ Total No. of visits 8

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

These boilers have been built under special survey, the workmanship and material are good. The boilers were tested on completion by hydraulic pressure to 320 and found tight.

Survey Fee ... £ 23 : 6 : 0 When applied for, 192

Travelling Expenses (if any) £ : : When received, 28 Apr. 1926

Thomas Napier

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 14 SEP 1926

Assigned + L.M.C. 9.26  
on G.R.K. Ret 18605.



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