

(Boiler No 2040)

# REPORT ON BOILERS.

No. 81925  
SAT. 26 FEB. 1921

24 FEB 1921

Received at London Office

pt. 5a.

Date of writing Report 24 2. 1921 When handed in at Local Office 19 Port of LIVERPOOL

No. in Survey held at Birkenhead Date, First Survey Dec 17<sup>th</sup> / 1919 Last Survey Feb 23<sup>rd</sup> 1921.

Reg. Book. on the Men<sup>r</sup> H.C. Grayson's Tug No 110 s/s 'Barbio' (Number of Visits 41) Gross Tons }  
Net Tons }

Master Built at Garston By whom built H.C. Grayson & Co. Ltd. When built

Engines made at By whom made When made

Boilers made at Birkenhead By whom made Cammell Laird & Co. Ltd. When made 1921.

Registered Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Josiah Colville & Co. Newcastle  
The Earl of Dudley's Royal Oak Works

Letter for record S. Total Heating Surface of Boilers 4550 Is forced draft fitted No No. and Description of

Boilers Two cylindrical multitubular S.B. Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 18/3/20. 25/3/20.

No. of Certificate 2113, 2116 Can each boiler be worked separately Area of fire grate in each boiler 59 sq ft No. and Description of

Safety valves to each boiler Two - Spring loaded. Area of each valve 5.04 sq in 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 Inside dia. of boilers 14'-9" Length 11'-5 1/2"

Material of shell plates Steel Thickness 1 1/8" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No

Description of riveting: cir. seams D.R. Lap long. seams T.R. D. Staps Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/4"

Gap of plates or width of butt straps 18 3/8" Per centages of strength of longitudinal joint rivets 88% Working pressure of shell by plate 85.71%

Size of manhole in End 16" x 12" Size of compensating ring Dished. No. and Description of Furnaces in each boiler 3 Morrison's Suspension Material Steel

Description of longitudinal joint Weld. No. of strengthening rings ✓ Working pressure of furnace by the rules 187 lbs Combustion chamber

Material of plates: Material Steel Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32" Pitch of stays to ditto: Sides 10 1/2" x 9" Back 9 1/2" x 9 1/2"

Top 10 1/2" x 9 1/4" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 180 lbs Material of stays Steel Area at

Smallest part 203 sq in Area supported by each stay 97.125 sq in Working pressure by rules 188 lbs End plates in steam space: Material Steel Thickness 1 1/2"

Pitch of stays 21 1/2" x 20" How are stays secured Double Nut Washers. Working pressure by rules 180 lbs Material of stays Steel Area at smallest part 7.85 sq in

Area supported by each stay 430 sq in Working pressure by rules 189 lbs Material of Front plates at bottom Steel Thickness 1 1/2" Material of

Lower back plate Steel Thickness 3/2" Greatest pitch of stays 14 1/4" x 9 1/2" Working pressure of plate by rules 222 lbs Diameter of tubes 3 1/4" ext.

Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 1 1/2" Back 1 1/8" Mean pitch of stays 11 1/8" Pitch across wide

Water spaces 14 1/4" Working pressures by rules 187 lbs. Girders to Chamber tops: Material Steel Depth and thickness of

Order at centre 2 in No 14 3/4" Length as per rule 28 1/2" Distance apart 9 1/4" Number and pitch of Stays in each 2 in No - 10 1/2"

Working pressure by rules 202 lbs. Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

The foregoing is a correct description,  
**CAMMELL LAIRD AND COMPANY LIMITED.**

Manufacturer. **7 FEB 1921**  
LOCAL SECRETARY. Yes.

Dates of Survey During progress of work in shops - - -  
while building - - -  
Is the approved plan of boiler forwarded herewith Yes.  
Total No. of visits 41.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has now been built under Special Survey & in accordance with the approved plan & Secretary's letter (E) dated 28<sup>th</sup> July 1919. The workmanship & materials are of good quality, and when tested to twice the working pressure was found satisfactory in every respect.

Survey Fee ... £ 27 : 13 When applied for, 24 FEB 1921  
Travelling Expenses (if any) £ : : When received, 5. 4. 21.

Committee's Minute **LIVERPOOL 25 FEB 1921**  
Assigned Transmit to London. Mr.

