

# REPORT ON BOILERS

No. 64417

Received at London Office 23 OCT 1941

Date of writing Report 4th Sept 1941 When handed in at Local Office 27th Sept 1941 Port of Glasgow  
No. in g. Book 1 Survey held at Paisley Date, First Survey 11: 11: 40 Last Survey 22: 11: 41  
on the Garica (Number of Visits 16) Gross Tons 19 Net Tons 41  
Master Port Glasgow Built at Port Glasgow By whom built Gerguson Bros. Ltd. Yard No. 354 When built 1941  
Engines made at Paisley By whom made R. V. Craig & Co. Ltd. Engine No. 146 When made 1941  
Boilers made at Paisley By whom made R. V. Craig & Co. Ltd. Boiler No. 147 When made 1941  
Nominal Horse Power 140 (136 net) Owners Port Glasgow Port belonging to Port Glasgow

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

Manufacturers of Steel Coburns Ltd. (Letter for Record S)  
Total Heating Surface of Boilers 2554 sq ft Is forced draught fitted Coal or Oil fired Coal  
No. and Description of Boilers Two Single Ended Working Pressure 180 lbs  
Tested by hydraulic pressure to 320 lbs Date of test 746 - 28.7.41 No. of Certificate 20811 Can each boiler be worked separately Yes  
Area of Firegrate in each Boiler 34.6 sq ft No. and Description of safety valves to each boiler 1  
Area of each set of valves per boiler per Rule Pressure to which they are adjusted as fitted Are they fitted with easing gear Yes  
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 11' 0" Is oil fuel carried in the double bottom under boilers Yes  
Smallest distance between shell of boiler and tank top plating 11' 0" Is the bottom of the boiler insulated Yes  
Largest internal dia. of boilers 11' 1 1/4" Length 11' 0" Shell plates: Material Steel Tensile strength 30/34 tons/s  
Thickness 1 1/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end O.R. Lap  
Pitch of rivets 3.24"  
No. of seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 1/8" Pitch of rivets 6 7/8"  
Percentage of strength of circ. end seams plate 67.0 Percentage of strength of circ. intermediate seam plate 47.9  
Percentage of strength of longitudinal joint rivets 86.8 Working pressure of shell by Rules 182 lbs  
Thickness of butt straps outer 2 1/32" No. and Description of Furnaces in each Boiler Two Reightons  
Material Steel Tensile strength 26/30 tons Smallest outside diameter 36 1/2"  
Length of plain part top 16 1/2" Thickness of plates bottom 1 1/2" Description of longitudinal joint Welded  
Dimensions of stiffening rings on furnace or c.c. bottom Yes Working pressure of furnace by Rules app. 180 lbs  
End plates in steam space: Material Steel Tensile strength 26/30 tons/s Thickness 2 1/32" Pitch of stays 14 1/2" x 14"  
How are stays secured Double Nuts Working pressure by Rules app. 180 lbs  
End plates: Material front Steel Tensile strength 26/30 tons/s Thickness 2 1/32"  
Lean pitch of stay tubes in nests 93/8" Pitch across wide water spaces 13 1/2" Working pressure app. 180 lbs  
Orders to combustion chamber tops: Material Steel Tensile strength 28/32 tons/s Depth and thickness of girder app. 180 lbs  
Centre 2 @ 8' x 3/4" Length as per Rule 2' - 6 1/2" Distance apart 9" No. and pitch of stays app. 180 lbs  
Each 3 @ 7 1/8" Working pressure by Rules app. 180 lbs Combustion chamber plates: Material Steel  
Tensile strength 26/30 tons/s Thickness: Sides 5/8" Back 2 1/32" Top 5/8" Bottom 5/8"  
Pitch of stays to ditto: Sides 9' x 7 1/8" Back 9' x 9" Top 9' x 7 1/8" Are stays fitted with nuts or riveted over Nuts  
Working pressure by Rules app. 180 lbs Front plate at bottom: Material Steel Tensile strength 26/30 tons/s  
Thickness 2 1/32" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 2 1/32"  
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts  
Working Pressure app. 180 lbs Main stays: Material Steel Tensile strength 28/32 tons/s  
Diameter At body of stay 2 3/8" No. of threads per inch 6 Area supported by each stay app. 180 lbs  
Working pressure by Rules app. 180 lbs Screw stays: Material Steel Tensile strength 26/30 tons/s  
Diameter At turned off part Back 1 1/8" Side 1 1/2" No. of threads per inch 9 Area supported by each stay app. 180 lbs



Working pressure by Rules *off. 180 lbs.* Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, *1 7/8" & 1 3/4"*  
Over threads  
No. of threads per inch *9* Area supported by each stay *✓* Working pressure by Rules *off. 180 lbs.*  
Tubes: Material *Steel* External diameter { Plain *2 1/2"* Thickness { *9/16"* No. of threads per inch *9*  
Stay *2 1/2"*  
Pitch of tubes *3 3/4" x 3 3/4"* Working pressure by Rules *off. 180 lbs.* Manhole compensation: Size of opening  
shell plate *20" x 16"* Section of compensating ring *blanged plate 7/8" thick* No. of rivets and diameter of rivet holes *40 @ 1 1/6"*  
Outer row rivet pitch at ends *7"* Depth of flange if manhole flanged  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes *3/8"* 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 forgings  
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 p  
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure  
tubes forgings and castings and after assembly in place Are drain cocks  
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

The foregoing is a correct description,

Dates of Survey { During progress of *1940 Nov. 11 Dec. 25 (1941) Feb.* Are the approved plans of boiler and superheater forwarded herewith No - *4/3*  
while work in shops - - -  
building { During erection on *12.17.27 Mar. 21.31 May 16 June 23* (If not state date of approval.)  
board vessel - - -  
Total No. of visits *16*  
*July 8.14.22.29.30 Aug 12.22*

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *Herguson Bros. 352 Gt. Rpt*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under Special Survey in accordance with the Society's Rules and approved plans. The materials & workmanship are good. The boilers have been despatched to Port Glasgow for installation in the vessel.*

NOTE:- Certificates for material being common to these and boilers 748/749 to follow will be attached to report on these boilers intended for Ferguson Bros. Yard no 355.

*906*  
*30/9/44*

Survey Fee ... £ *17* : - : - When applied for, *1 OCT 1941*  
Travelling Expenses (if any) £ : - : - When received, *10*

*E. Anderson* & *M. P. Kibbleson*

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *GLASGOW* *1 OCT 1941*

Assigned *Severid*

*GLASGOW* *11 NOV 1941*  
LLOYD'S REGISTER  
ACCOMPANYING MACHINERY REPORT  
Foundation