

# REPORT ON WATER TUBE BOILERS.

No. 61765

Received at London Office

22 NOV 1939

Date of writing Report 9<sup>th</sup> Nov 1939 When handed in at Local Office 18<sup>th</sup> Nov 1939 Port of Glasgow  
 No. in Survey held at Renfrew Date, First Survey 13. 6. 38 Last Survey 4<sup>th</sup> Nov 1939  
 Reg. Bk. on the Boiler intended for Greenock Dockyard No 437 Number of Visits 80 Tons { Gross  
 Master Built at Greenock By whom built J. G. Kincaid & Co Ltd (E. N. 400) When built  
 Engines made at Renfrew By whom made Babcock & Wilcox Ltd 6/1344 When made  
 Registered Horse Power 986 Owners Greenock Dockyard Port belonging to Greenock Dockyard

**WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.**—Manufacturers of Steel Colville Ltd  
 Letter for Record W. T. Spt Date of Approval of plan 14 & 24/6/38 Number and Description or Type  
 of Boilers 3-Babcock & Wilcox Type Working Pressure 250 lb Tested by Hydraulic Pressure to 425 lb Date of Test  
 No. of Certificate 1 Can each boiler be worked separately Yes Total Heating Surface of Boilers 14,790 sq ft  
 Is forced draught fitted Yes Area of fire grate (coal) in each Boiler 4-10 sq ft Total grate area of boilers in vessel including  
 Main and Auxiliary Yes No. and type of burners (oil) in each boiler 4-Reliance No. and description of safety valves on  
 each boiler One - 3" dia. Double, Imp. High Lift Area of each valve 7.06 sq in Pressure to which they are adjusted  
 Are they fitted with easing 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" Height of Boiler 41'-6" Width and Length 30'-0" x 38'-6"  
**Steam Drums:**—Number in each boiler One Inside diameter 3'-6" Material of plates Steel Thickness 1 1/16"  
 Range of Tensile Strength 28/32 tons Are drum shell plates welded or flanged Welded Description of riveting:—  
 Cir. seams Double Weld long. seams Double Weld Diameter of rivet holes in long. seams 1/16" Pitch of Rivets 1 1/2"  
 Lap of plate or width of butt straps 1" Thickness of straps 1/4" Percentage strength of long. joint:—Plate 85 Rivet 85  
 Diameter of tube holes in drum 4.047" Pitch of tube holes 7" Percentage strength of shell in way of tubes 42  
 If Drum has a flat side state method of staying Yes Depth and thickness of girders at centre  
 (if fitted) Yes Distance apart 12" Number and pitch of stays in each 18" Working pressure  
 by rules 250 lb **Steam Drum Heads or Ends:**—Material Steel Thickness 1 1/8" Radius or how stayed 3'-0" (outside)  
 Size of Manhole or Handhole 11" x 15" **Water Drums:**—Number in each boiler One Inside Diameter 1'-0"  
 Material of plates Steel Thickness 1/4" Range of tensile strength 28/32 tons Are drum shell plates welded  
 or flanged Welded Description of riveting:—Cir. seams Double Weld long. seams Double Weld Diameter of Rivet Holes in  
 long. seams 1/16" Pitch of rivets 1 1/2" Lap of plates or width of butt straps 1" Thickness of straps 1/4"  
 Percentage strength of long. joint:—Plate 85 Rivet 85 Diameter of tube holes in drum 4.047" Pitch of tube holes 7"  
 Percentage strength of drum shell in way of tubes 42 **Water Drum Heads or Ends:**—Material Steel Thickness 1/4"  
 Radius or how stayed Yes Size of manhole or handhole 11" x 15" **Headers or Sections:**—Number 19 each  
 Material Steel Thickness 1/2" & 3/16" Tested by Hydraulic Pressure to 425 lb Material of Stays Steel  
 Area at smallest part 5.45 sq ft Area supported by each stay 5.4 sq ft Working Pressure by Rules 250 lb **Tubes:**—Diameter 4" & 1 1/2"  
 Thickness 5 L.S.G. & 8 L.S.G. Number 54 @ 4" & 84 @ 1 1/2" **MUDDING** NO PER BOILER Description of Joint to Shell one  
 Percentage strength of Joint Solid drum Diameter 6" x 6" Thickness of shell plates 3/4" Material Steel  
 Description of longitudinal joint Yes Diameter of Rivet Holes 1/16" Pitch of Rivets 1 1/2" Working Pressure of shell  
 by Rules add 250 lb **Crown or End Plates:**—Material Steel Thickness 1/2" How stayed Yes  
**SUPERHEATER.** Type Babcock & Wilcox Date of Approval of Plan 3/11/38 Tested by Hydraulic Pressure to 425 lb  
 Date of Test 21-9-39 & 11-9-25-10-39 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler Yes  
 Diameter of Safety Valve 3" Single Imp. High Lift Pressure to which each is adjusted 425 lb Is easing gear fitted  
 Is a drain cock or valve fitted at lowest point of superheater Yes Number, diameter, and thickness of tubes 120 - 1 1/2" x 9 L.S.G.  
 Spare Gear. Tubes 8-4" x 9 L.S.G. long Gaskets or joints:—Manhole 6 Handhole 402 Handhole plates 14  
20/11/39

The foregoing is a correct description,

J. G. Kincaid & Co Ltd Manufacturer.

Dates of Survey { During progress of work in shops - 1938 June: 13, 20 July: 4 Aug: 22 Sep: 7-29 Is the approved plan of boiler forwarded herewith Yes  
 while building { During erection on board vessel - Oct: 10, 19, 26 Nov: 2, 11, 14, 22 Dec: 7, 14, 20, 23, 30  
1939 Jan: 16, 26, 31 Feb: 6, 13, 14, 20, 23, 27 Mar: 7, 13, 27 Total No. of visits 80  
Apr: 4, 5, 11, 17, 24, 28 May: 2, 5, 8, 15, 22, 23, 25, 26, 29, 30 June: 1, 6, 7, 19, 26, 28, 30 July: 3, 6, 10 Aug: 8, 14, 21, 22, 28, 31  
Sep: 4, 8, 12, 20, 21, 27 Oct: 3, 11, 13, 16, 17, 23, 24, 25, 31 Nov: 4

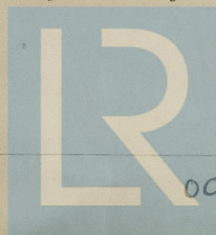
**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed  
in accordance with the Society's Rules and approved plans. The materials & workmanship  
are good. The drums, sections, superheaters and mountings have been tested under hydraulic pressure  
but each boiler as a unit has not been tested.  
Three boilers have been despatched to Greenock for installation and hydraulic  
test in Messrs Greenock Dockyard & Co Ltd's Yard No 437.

Survey Fee ... £ 61 : 16 : - When applied for, 21 NOV 1939  
 Travelling Expenses (if any) £ : : When received, 8<sup>th</sup> Jan. 1940.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 21 NOV 1939

Assigned TRANSMIT TO LONDON



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