

REPORT ON WATER TUBE BOILERS.

No. 67523

Received at London Office

- 2 SEP 1943

13 JAN 1944

Date of Writing Report 25th Aug 1943 When handed in at Local Office 28th Aug 1943 Port of Glasgow

No. in Survey held at Renfrew Date, First Survey 28th Dec 1942 Last Survey 14th Aug 1943
Reg. Bk. T.W. & C. L. ANURQUHART

on the Boiler intended for Greenock Dockyard - Yard No 454 (Number of Visits 14) Tons { Gross 972.6
Net 560.7

Built at Greenock By whom built Greenock Dockyard Co Ltd When built 1944

Engines made at Greenock By whom made J. G. Kincaid - Eng No 746 When made 1944

Boilers made at Renfrew By whom made Babcock & Wilcox Ltd 6/1561 When made 1943

Nominal Horse Power 808 (Bln only) Owners CLAN LINE STEAMERS LTD Port belonging to

WATER TUBE BOILERS - MAIN, AUXILIARY, OR DONKEY. - Manufacturers of Steel

Colville Ltd

Date of Approval of plan 18-8-42 etc Number and Description or Type
of Boilers Babcock & Wilcox Type - 2 - No Working Pressure 240 lb. Tested by Hydraulic Pressure to Date of Test 7.1.44

No. of Certificate 23559 Can each boiler be worked separately Total Heating Surface of Boilers 12,120 sq feet

Is forced draught fitted Area of fire grate (coal) in each Boiler

No. and type of burners (oil) in each boiler 5 in No. BT W. Pressure Type No 1 No. and description of safety valves on

each boiler One - 4" Double Spring Imp. High Lift Area of each set of valves 25.13 sq Pressure to which they are adjusted 18.08 lb. per sq in

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 Height of boiler 22' 9 1/2" Width and Length 14' 10" x 18' 6"

Steam Drums: - Number in each boiler One Inside diameter 3' 6" Thickness of plates 1 1/2"

Range of Tensile Strength 28/32 tons { Are drum shell plates welded or flanged Fusion Welded Description of riveting: -

Cir. seams ✓ long. seams ✓ Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓

Lap of plate or width of butt straps ✓ Thickness of straps ✓ Percentage strength of long. joint: - Plate ✓ Rivet ✓

Diameter of tube holes in drum 4.056" Pitch of tube holes 7" Percentage strength of shell in way of tubes 40.4

Working pressure by rules app'd 240 lbs. Steam Drum Heads or Ends: - Range of tensile strength 26/30 tons Thickness of plates made for 18 lbs.

Radius or how stayed 3' 0" (inside) Size of manhole or handhole 15" x 11" Working pressure by rules app'd 240 lbs. Water Drums: - Number

in each boiler ✓ Inside Diameter ✓ Thickness of plates ✓ Range of tensile strength ✓ Are drum shell plates

welded or flanged ✓ Description of riveting: - Cir. seams ✓ long. seams ✓ Diameter of rivet holes in

long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓ Thickness of straps ✓

Percentage strength of long. joint: - Plate ✓ Rivet ✓ Diameter of tube holes in drum ✓ Pitch of tube holes ✓

Percentage strength of drum shell in way of tubes ✓ Working pressure by rules ✓ Water Drum Heads or Ends: - Range of

Tensile strength ✓ Thickness of plates ✓ Radius or how stayed ✓

Size of manhole or handhole ✓ Working pressure by rules ✓ Headers or Sections: - Number 26 each 40 lbs

Material Forged Steel Thickness 7/16" + 1 1/2" Tested by Hydraulic Pressure to 410 lbs. Tubes: - Diameter 4" 10/16" + 1 1/2" 10/16"

Thickness 4" - 4 L.S.G., 1 1/2" - 8" 10 L.S.G. Number 1018 @ 1 1/2" each MUD DRUM

Inside 5 1/2" 6" x 6" (heads) Thickness of shell plates 3/4" Steam Drum or Collector: - Description of Joint to Shell ✓

Description of longitudinal joint ✓ 52 return tubes 4" x 6 L.S.G. Range of tensile strength 28/32 tons

butt straps ✓ Thickness of straps ✓ Percentage strength of long. joint ✓ Plate ✓ Rivet ✓

Working Pressure of shell by rules ✓ Crown or End Plates: - Range of tensile strength ✓

Thickness ✓ Radius or how stayed ✓ Working pressure by rules ✓

SUPERHEATER. Drums or Headers: - Number in each boiler Two Inside Diameter 9 1/2"

Thickness 1 1/4" Material Solid drum steel Range of tensile strength 28/32 tons Are drum shell plates welded

or flanged ✓ Description of riveting: - Cir. seams ✓ long. seams ✓ Diameter of rivet holes in

long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓ Thickness of straps ✓

Percentage strength of long. joint: - Plate ✓ Rivet ✓ Diameter of tube holes in drum ✓ Pitch of tube holes ✓

Percentage strength of drum shell in way of tubes ✓ Working pressure by rules app'd 240 lbs. Drum Heads or Ends: -

Thickness ✓ Range of tensile strength ✓ Radius or how stayed ✓ Size of manhole or handhole 3 5/8" square

Working pressure by rules ✓ Number, diameter, and thickness of tubes (92) 1 1/2" 10/16"; 9 L.S.G. Tested by Hydraulic Pressure to 410 lbs.

Date of Test ✓ Is a safety valve fitted to each section of the superheater which can be shut off from the boiler Yes

No. and description of Safety Valves One - 4" Double Spring Imp. High Lift Area of each set of valves

Pressure to which they are adjusted 230 lb. design Is easing gear fitted ✓

Spare Gear. Has the spare gear required by the rules been supplied Yes

The foregoing is a correct description,

Babcock & Wilcox Ltd. Manufacturer.

Dates of Survey { During progress of work in shops - - - 1942. Dec 28 1943 Mar 2. 22. 31. Apr 31. May. 6. 10. 13

while building { During erection on board vessel - - - Jun 1. 11 Jul 2. 5. 19 Aug 17

Is the approved plan of boiler forwarded herewith

Total No. of visits 14

Is this boiler a duplicate of a previous case No If so, state vessel's name and report No. ✓

GENERAL REMARKS

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

These boilers have been constructed under special survey in accordance with the Society's Rules and approved plans. The drums, sections, superheaters & mountings have been tested under hydraulic pressure but each boiler as a unit has not been tested. The boilers have been despatched to Greenock for installation and hydraulic test in Greenock Dockyard - Yard No 454

Survey Fee ... £ 52 : 18 : } When applied for, 31 AUG 1943

Travelling Expenses (if any) £ : : } When received, 10

Committee's Minute GLASGOW 31 AUG 1943

Assigned referred for completion

Engineer Surveyor to Lloyd's Register of Shipping.
Both boilers tested by hydraulic pressure after erection in place. Please see Main Machinery report for recommendations.

GLASGOW 11 JAN 1944

Chester of Dundee

Greenock 7/1/44

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