

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 28 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. & CLAN URQUHART. (Number of Visits 14)

on the Boilers intended for Greenock Dockyard - Yard No 454 Tons {Gross 9726
Net 5607

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 L^{td} Port belonging to

WATER TUBE BOILERS - MAIN, AUXILIARY, OR DONKEY. - Manufacturers of Steel Coburn 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 360 lb. Date of Test 7/1/44

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

Is forced draught fitted Yes Area of fire grate (coal) in each boiler 5 in No. BT W. Pressure Type No 1

No. and type of burners (oil) in each boiler One - 4" Double Spring Imp. High Lift 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 18.05 lb

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 3'-6" 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 1/16"

Range of Tensile Strength 28/32 tons Are drum shell plates welded or flanged Fusion Welded Description of riveting: - NOTE: The requirements of the Rules for Class 2 Pressure Vessels have been complied with

Cir. seams Yes long. seams Yes Diameter of rivet holes in long. seams 3/16" Pitch of rivets 1 1/2"

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

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 from 1 1/8" plates

Radius or how stayed 3'-0" (radius) Size of manhole or handhole 15" x 11" Working pressure by rules app^d 240 lbs. Water Drums: - Number in each boiler Yes Inside Diameter Yes Thickness of plates Yes Range of tensile strength Yes Are drum shell plates welded or flanged Yes Description of riveting: - Cir. seams Yes long. seams Yes Diameter of rivet holes in long. seams Yes Pitch of rivets Yes Lap of plates or width of butt straps Yes Thickness of straps Yes

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

Percentage strength of drum shell in way of tubes Yes Working pressure by rules Yes Water Drum Heads or Ends: - Range of Tensile strength Yes Thickness of plates Yes Radius or how stayed Yes

Size of manhole or handhole Yes Working pressure by rules Yes Headers or Sections: - Number 26 each tubes

Material Forged Steel Thickness 7/16" + 1/32" Tested by Hydraulic Pressure to 410 lbs. Tubes: - Diameter 4" 10/16" + 1/16" O.D.

Thickness 4" - 4 L.S.G. ; 1 1/16" - 8" 10 L.S.G. Number 1018 @ 1 1/16" each Steam Drum or Collector: - Description of Joint to Shell Yes

Inside diameter 6" x 6" (heads) Thickness of shell plates 3/4" Range of tensile strength 28/32 tons

Description of longitudinal joint 52 return tubes 4" x 6 L.S.G. Diameter of rivet holes Yes Pitch of rivets Yes Lap of plate or width of butt straps Yes Thickness of straps Yes Percentage strength of long. joint: - Plate Yes Rivet Yes

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

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

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

Thickness 1/4" Material Solid drum steel Range of tensile strength 28/32 tons Are drum shell plates welded or flanged Yes Description of riveting: - Cir. seams Yes long. seams Yes Diameter of rivet holes in long. seams Yes Pitch of rivets Yes Lap of plates or width of butt straps Yes Thickness of straps Yes

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

Percentage strength of drum shell in way of tubes Yes Working pressure by rules app^d 240 lb. Drum Heads or Ends: - Thickness Yes Range of tensile strength Yes Radius or how stayed Yes Size of manhole or handhole 3 5/8" square

Working pressure by rules Yes Number, diameter, and thickness of tubes (92) 1 1/2" O.D. ; 9 L.S.G. Tested by Hydraulic Pressure to 410 lb.

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 Yes

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

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

Is the approved plan of boiler forwarded herewith Yes

Total No. of visits 14

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

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 shed 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
Greenock 7/1/44

If not, state whether, and when, one will be sent?

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