

REPORT ON WATER TUBE BOILERS.

No. 74471

Received at London Office 22 SEP 1949

Date of writing Report 5-9-1949 When handed in at Local Office 10-9-1949 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 25-2-47 Last Survey 19-8-1949

Reg. Book. on the SS. BIOGRAPHER (Number of Visits 79) Tons Gross. Net.

Built at PORT GLASGOW By whom built LITHGOW LD Yard No. 1029 When built 1949

Engines made at GLASGOW By whom made D. ROWAN, CO LD Engine No. 1204 When made 1949

Boilers made at GLASGOW By whom made D. ROWAN, CO LD Boiler No. 1204 When made 1949

Nominal Horse Power. Owners T. J. HARRISON. Port belonging to LIVERPOOL

WATER TUBE BOILERS—MAIN, ~~SUBMERGED OR DONKEY~~.—Manufacturers of Steel Colvilles

Date of Approval of plan 27/3/47. No. and Description or Type of Boilers 2 Rate Wheel D Type Working Pressure 490/450 Tested by Hydraulic Pressure to 785/650 Date of Test 5.24.1.49

No. of Certificate 5.23819 Can each boiler be worked separately Yes Total Heating Surface of Boiler 2625/3350/735/2835 sq. ft. x2

Is forced draught fitted Yes Area of Fire Grate (coal) in each Boiler

No. and type of burners (oil) in each boiler 3 Swinney Bros. No. and description of safety valves on each boiler 1. 1 1/2 DIA SINGLE IMPROVED HIGH LIFT ✓ 2. 1 3/4 DIA DOUBLE IMPROVED HIGH LIFT ✓ Area of each set of valves per boiler including safety valves per rule As approved. as fitted 6.66 sq. ft. Pressure to which they are adjusted 490/450 Are they fitted with easing gear Yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler

Width and length 8'-9" 15'-9" Steam Drums:—Number in each boiler One ✓ Inside diameter 42" ✓

Thickness of plates 13/4" Range of tensile strength 28-32 tons ✓ Are drum shell plates welded or flanged Welded ✓ If fusion welded, state name of welding firm Brownie Boiler Works Ltd Have all the requirements of the Rules for Class I vessels been complied with Yes ✓ Description of riveting:—Circ. seams long. seams

Diameter of rivet holes in long. seams Pitch of rivets Thickness of straps Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 2" 1 1/4" Pitch of tube holes 6.4 1/2 2 1/4

Percentage strength of shell in way of tubes As approved ✓ Steam Drum Heads or Ends:—Range of tensile strength 26-30 tons ✓

Thickness of plates 13/4" Radius 3'-6" ✓ Size of manhole or handhole 16" x 12" ✓ Water Drums:—Number in each boiler One ✓ Inside diameter 42" 230" Thickness of plates 1 1/4" ✓ Range of tensile strength 28-32 tons ✓ Are drum shell plates welded or flanged Welded ✓ If fusion welded, state name of welding firm Brownie Boiler Works Ltd Have all the requirements of the Rules for Class I vessels been complied with Yes ✓ Description of riveting:—Circ. seams long. seams

Diameter of rivet holes in long. seams Pitch of rivets Thickness of straps Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 2" 1 1/4" Pitch of tube holes 6.4 1/2 2 1/4

Percentage strength of drum shell in way of tubes Water Drum Heads or Ends:—Range of tensile strength

Thickness of plates 1 1/4" ✓ Radius 2'-6" ✓ Size of manhole or handhole 16" x 12" ✓

Headers—Sections:—Number Two ✓ Material Steel Thickness 1" ✓ Tested by hydraulic pressure to 785/650

Tubes:—Diameter 2" ✓ Thickness 6 W.G. ✓ Number 40 Steam Dome or Collector:—Description of joint to shell Inside diameter 11 W.G. ✓ Thickness of shell plates Range of tensile strength Description of longitudinal joint If fusion welded, state name of welding firm Have all the requirements for the Rules for Class I vessels been complied with Diameter of rivet holes Pitch of rivets Thickness of straps Percentage strength of long. joint plate rivet

Crown or End Plates:—Range of tensile strength Thickness Radius or how stayed

SUPERHEATER, Drums or Headers:—Number in each boiler Two ✓ Inside diameter 6 1/4 square ✓

Thickness Material Range of tensile strength Are drum shell plates welded or flanged Solid drawn ✓ If fusion welded, state name of welding firm Rate Wheel Have all the requirements of the Rules for Class I vessels been complied with Description of riveting:—Circ. seams long. seams

Diameter of rivet holes in long. seams Pitch of rivets Thickness of straps Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 1 1/4" ✓ Pitch of tube holes 2 1/8" ✓ Percentage strength of drum shell in way of tubes As approved ✓ Drum Heads or Ends:—Steel Thickness 1 1/2" ✓ Range of tensile strength 28-32 tons ✓

Radius or how stayed Flat ✓ Size of manhole or handhole Number, diameter, and thickness of tubes 142 @ 1 1/4 DIA 11 W.G. ✓

Tested by hydraulic pressure to 785/650 Date of test 10/2/49 Is a safety valve fitted to each of the superheater which can be shut off from the boiler Yes No. and description of safety valves 1. 1 3/4 DIA DOUBLE IMP HIGH LIFT. Area of each set of valves 4.8 sq. ft. Pressure to which they are adjusted 450/650 Is easing gear fitted Yes

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

The foregoing is a correct description,
For David Rowan & Co. Ltd. Manufacturer.

Dates of Survey During progress of work in shops - - - See attached Machinery Rpt.
while building During erection on board vessel - - -

Is the approved plan of boiler forwarded herewith. Once Yes.

Total No. of visits. —

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 the approved plans. Materials and workmanship are good. The boilers have been efficiently installed in the vessel, tried under full working conditions and the safety valves adjusted to 490/450. Spt 450/650.

Survey Fee ... £ ... When applied for 19.
Travelling Expenses (if any) £ See Machinery Report When received 19.

Date GLASGOW 21 SEP 1949

Committee's Minute. See accompanying machinery report

Engineer Surveyor to Lloyd's Register of Shipping.

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(The Survivors are requested not to write on or below the space for Committee's Minute.)

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These notes have been constructed in accordance with the Society Rules and the approval of the Council and have been efficiently installed in the new building and the safety of the notes is assured.