

REPORT ON WATER TUBE BOILERS.

No. 59554

Received at London Office

MAR 30 1938

Date of writing Report 14.3.38 When handed in at Local Office 26.3.38 Port of Glasgow

No. in Survey held at Renfrew Date, First Survey 20.5.37 Last Survey 24 Mar 1938

Reg. Bk. on the 2 Boilers No 6/1327 T.W.S.C. "Rafaela" Number of Visits 32 Tons Gross 3177
Net 1558

Master Clydebank Built at Scotstoun By whom built Blythwood S.B. Co Ltd When built 1938

Engines made at Renfrew By whom made Aitchison Blain & Co When made 1938

Boilers made at Renfrew By whom made Babcock & Wilcox Ltd When made 1938

Registered Horse Power _____ Owners _____ Port belonging to _____

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Leopold Steel Co Ltd & Steel Co Scotland

(Letter for Record _____) Date of Approval of plan 8/3/37, 23/4/37, 9/4/37, 10/3/37 Number and Description or Type of Boilers 2. B. + W. Working Pressure 180 lbs Tested by Hydraulic Pressure to 320 lbs Date of Test 4.3.38

No. of Certificate 20132 Can each boiler be worked separately _____ Total Heating Surface of Boilers 6520 sq ft

Is forced draught fitted _____ Area of fire grate (coal) in each Boiler _____ Total grate area of boilers in vessel including _____

Main and Auxiliary _____ No. and type of burners (oil) in each boiler _____ No. and description of safety valves on each boiler 2 Imp. High Lift Area of each valve 5.94 sq in Pressure to which they are adjusted _____

Are they fitted with easing gear _____ In case of donkey boilers state whether steam from main boilers can enter the donkey boiler 12'-10 1/2"

Smallest distance between boilers or uptakes and bunkers or woodwork _____ Height of Boiler 11'6" approx Width and Length 13'-6 3/4" approx

Steam Drums:—Number in each boiler One Inside diameter 3'-6" Material of plates Steel Thickness 1/2" + 1/16"

Range of Tensile Strength 28-32 Ton Are drum shell plates welded or flanged no. Description of riveting:—

Cir. seams D.R. long. seams D.R.-D.B.S. Diameter of rivet holes in long. seams 2 1/32" Pitch of Rivets 3.229"

Lap of plate or width of butt straps 8 1/16" + 9 1/16" + 4 3/4" Thickness of straps 1/2" Percentage strength of long. joint:—Plate 73.87 Rivet 102.0

Diameter of tube holes in drum 4 1/16" + 4 3/16" Pitch of tube holes 4" x 6" Percentage strength of shell in way of tubes 41.7

If Drum has a flat side state method of staying _____ Depth and thickness of girders at centre _____

(if fitted) Circ Seams to Plate 69.66 - Rivets 63.17 Distance apart _____ Working pressure _____

by rules _____ Steam Drum Heads or Ends:—Material Steel Thickness 3/4" plate Radius or how stayed 3'-0"

Size of Manhole or Handhole 16" x 12" Water Drums:—Number in each boiler _____ Inside Diameter 6" sq section

Material of plates Steel Thickness 3/4" Range of tensile strength 28-32 Ton Are drum shell plates welded or flanged Solid drawn 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 4 3/64" Pitch of tube holes 7"

Percentage strength of drum shell in way of tubes _____ MUD Water Drum Heads or Ends:—Material _____ Thickness _____

Radius or how stayed _____ Size of manhole or handhole 4 1/16" sq Headers or Sections:—Number 18

Material Steel Thickness 1/32" minimum Tested by Hydraulic Pressure to 320 lbs Material of Stays _____

Area at smallest part 6.59. 1/4" + 10.259. 9/16" Area supported by 628 @ 1 1/16" Working Pressure by Rules 180 lbs Tubes:—Diameter 4-1 1/16" OD

Thickness _____ Number 56 @ 4" Steam Dome or Collector:—Description of Joint to Shell _____

Percentage strength of Joint _____ Diameter _____ Thickness of shell plates _____ Material _____

Description of longitudinal joint _____ Diameter of Rivet Holes _____ Pitch of Rivets _____ Working Pressure of shell _____

by Rules _____ Crown or End Plates:—Material _____ Thickness _____ How stayed _____

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____

Date of Test _____ Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler _____

Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is easing gear fitted _____

Is a drain cock or valve fitted at lowest point of superheater _____ Number, diameter, and thickness of tubes _____

Spare Gear. Tubes _____ Gaskets or joints:—Manhole _____ Handhole _____ Handhole plates _____

The foregoing is a correct description, _____

_____ Manufacturer. Babcock & Wilcox, Ltd

Dates of Survey } During progress of work in shops - - - 1937 May: 20 25 June: 14 15 24 Aug: 9 18 Is the approved plan of boiler forwarded herewith Yes

while building } During erection on board vessel - - - 21 24 (1938) Jan: 17 Feb: 1 2 3 4 11 17 21 Total No. of visits 32

Mar: 2 7 11 17 24

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

These boilers have been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. They are intended for M^r Aitchison Blain No 212 Engines, for Blythwood S. B. Co's Yard No 50. These boilers have been satisfactorily secured on board the T.W.S.C. "RAFAELA". See Glasgow Rpt. No 59970

Survey Fee ... £ 34/4/0 When applied for, Mon aft. 19

Travelling Expenses (if any) £ _____ When received, 19

H. Sutherland
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 MAR 1938

Assigned TRANSMIT TO LONDON

