

# REPORT ON WATER TUBE BOILERS.

No. 2687

Received at London Office

MAR 16 1938

Date of writing Report 14.3.1938 When handed in at Local Office 14.3.1938 Port of Barris

No. in Survey held at Barris Date, First Survey 29<sup>th</sup> September, 1936 Last Survey 9.3.1938

Reg. Bk. on the John Senne **STRATHALLAN.** Number of Visits 35 } Gross 23721.95  
 Tons } Net 14230.22

Master Barris Built at Barris By whom built Vickers Armstrongs Ltd When built 1938

Engines made at Barris By whom made .do. When made 1938

Boilers made at Barris By whom made .do. When made 1938

Nominal Horse Power 4910 Owners Peninsular & Oriental Steam Navigation Co Ltd Port belonging to London

See also Glasgow Report No 58009.

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

(Letter for Record S ✓) Date of Approval of plan \_\_\_\_\_ Number and Description or Type of Boilers 2 BAACOCK + WILCOX TYPE (SMALL) Working Pressure 450 lb Tested by Hydraulic Pressure to 725 lb Date of Test 20.1.38

No. of Certificate 1468 ✓ Can each boiler be worked separately YES ✓ Total Heating Surface of Boilers 7170 # ✓

Is forced draught fitted YES ✓ 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 4 WALLSEND TYPE No. and description of safety valves on each boiler 1 CORNHOUS 4 1/2 DOUBLE SPRING Area of each valve 2 @ 3.14 # ✓ Pressure to which they are adjusted 450 lb # ✓

Are they fitted with casing 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 18'-3" ✓ Width and Length 4'-6" x 18'-0" ✓

Steam Drums:—Number in each boiler ONE ✓ Inside diameter 3'-6" ✓ Material of plates STEEL ✓ Thickness 1 1/8" ✓

Range of Tensile Strength SHELL 28/32 Tons ✓ ENDS 26/30 Tons ✓ Are drum shell plates welded or flanged SOLID FORGED ✓ Description of riveting:—

Cir. seams DOUBLE ✓ 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 1/4" ✓ Pitch of tube holes 7 1/4" ✓ Percentage strength of shell in way of tubes 44.1 ✓

If Drum has a flat side state method of staying \_\_\_\_\_ Depth and thickness of girders at centre (if fitted) \_\_\_\_\_

Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Steam Drum Heads or Ends:—Material STEEL ✓ Thickness 1 1/8" ✓ Radius or how stayed 3'-0" ✓

Size of Manhole or Handhole 15 x 11" ✓ MUD Water Drums:—Number in each boiler ONE ✓ Inside Diameter 6 x 6" sq. ✓

Material of plates STEEL ✓ Thickness 3/4 NOMINAL ✓ 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 \_\_\_\_\_

Water Drum Heads or Ends:—Material \_\_\_\_\_ Thickness \_\_\_\_\_

Radius or how stayed \_\_\_\_\_ Size of manhole or handhole \_\_\_\_\_

Headers or Sections:—Number 20 (TOTAL)

Material STEEL Thickness 3/8 NOMINAL Tested by Hydraulic Pressure to 725 lb # ✓ Material of Stays \_\_\_\_\_

Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working Pressure by Rules \_\_\_\_\_ Tubes:—Diameter 1 1/2" GENERATOR ✓  
4" RETURN ✓

Thickness 1 1/8" --- 7 x 9 LSG ✓ Number 700 @ 1 1/8" ✓

Percentage strength of Joint \_\_\_\_\_ Diameter 40 @ 4" ✓

Steam Dome or Collector:—Description of Joint to Shell \_\_\_\_\_

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 8+W INTERLOCK Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to 725 AFTER TUBING # ✓

Date of Test See Barris letter 19.3.38 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler YES ✓

Diameter of Safety Valve 2" SINGLE SPRING ✓ Pressure to which each is adjusted 440 lb # ✓ Is casing gear fitted YES ✓

Is a drain cock or valve fitted at lowest point of superheater YES ✓ Number, diameter, and thickness of tubes 75 @ 1 1/2" OD x 8 LSG ✓

Spare Gear. Tubes 6 SUPERHEATER baskets or joints:—Manhole 2 Handhole 65 Handhole plates 4 COMPLETE WITH BRIDGE NUT ✓

The foregoing is a correct description,  
 For VICKERS-ARMSTRONGS LIMITED,  
Wood Manufacturer.

Dates of Survey } During progress of work in shops - - - 1936 } Sept. 29, Oct. 14, 15, 29, Nov. 10, 11, Dec. 10, Jan. 14, Feb. 2, 9, Mar. 31, } Is the approved plan of boiler forwarded herewith YES ✓  
 while building } During erection on board vessel - - - 1937 } Apr. 26, May 19, 25, 31, June 14, 15, 24, 29, July 9, 14, 20, Aug. 1, 9, }  
 } 1938 } Jan. 20, Feb. 10, 14, 25, } Total No. of visits 35

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

The boilers have been constructed under Special Survey & in accordance with Rule requirements & the materials & workmanship are sound & good. They have been efficiently installed on board & their safety valves adjusted under steam as above. (See also Barris March' report attached)

Survey Fee ... (See March' report) : } When applied for, 15.3.1938  
 Travelling Expenses (if any) £ : } When received, 19

McMillan  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 18 MAR 1938  
 Assigned See J. E. McHugh report

