

Rpt. 5c.

REPORT ON WATER TUBE BOILERS.

No. 2619.

Received at London Office 24 JUL 1936

Date of writing Report 23.7.1936 When handed in at Local Office 23.7.1936 Port of Barrow.

No. in Surveys held at Barrow. Date, First Survey 13.5.35 Last Survey 28.7.1936
 Reg. Bk. Jm Se Steamship 'AWATEA' Number of Visits 32 Gross 13481.96
 Master Built at Barrow. By whom built Vickers Armstrongs Ltd When built 1936
 Engines made at Barrow. By whom made Vickers Armstrongs Ltd When made 1936
 Boilers made at Barrow. By whom made - do - When made 1936
 Registered Horse Power Owners Union Steamship Co of New Zealand Ltd Port belonging to Wellington N.Z.

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel English Steel Corp. John St.

(Letter for Record 5) Date of Approval of plan 12.2.35 approved 14.5.35 Number and Description or Type

of Boilers Yarrow (6) 5 Drum Type. Working Pressure 450 lb. Tested by Hydraulic Pressure to 725 lb. Date of Test 25.5.36

No. of Certificate 463. Can each boiler be worked separately 7/10. Total Heating Surface of Boilers 34,165.00 sq ft.

Is forced draught fitted 7/10. Area of fire grate (coal) in each Boiler 90 sq ft (equivalent) Total grate area of boilers in vessel including

Main and Auxiliary 540 sq ft (equivalent) No. and type of burners (oil) in each boiler 4. (J. Samuel White) No. and description of safety valves on

each boiler 4. Improved high lift. Area of each valve 3.14 sq in. Pressure to which they are adjusted 450 lb.

Are they fitted with casing gear 7/10. 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 1' 1" to Donkey Boiler. Height of Boiler 19' 0" Width and Length 2' 3" x 17' 9"

Steam Drums:—Number in each boiler One Inside diameter 4' 2" Material of plates Steel Thickness 2"

Range of Tensile Strength 34 - 38 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 1 1/4" x 1 3/4" Pitch of tube holes 1 7/8" x 3 3/4" Percentage strength of shell in way of tubes 43.3 mean.

If Drum has a flat side state method of staying Circular. 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 1/2" Radius or how stayed 50"

Size of Manhole or Handhole 16" x 12" Water Drums:—Number in each boiler 3 Inside Diameter 23" x 30"

Material of plates Steel Thickness 1 1/4" x 1 3/4" Range of tensile strength 28 - 32 tons. Are drum shell plates welded

or flanged No. Solid forged Description of riveting:—Cir. seams Double long. seams Diameter of Rivet Holes in

long. seams Pitch of rivets Lap of plates or width of butt straps Thickness of straps 1 1/2" x 3 3/4"

Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 1 1/4" x 1 3/4" Pitch of tube holes 1 7/8" x 3 3/4"

Percentage strength of drum shell in way of tubes 43.3 mean. Water Drum Heads or Ends:—Material Steel Thickness 1 1/4" x 1 3/4"

Radius or how stayed 21" 30" Size of manhole or handhole 16" x 12" Headers or Sections:—Number

Material Thickness Tested by Hydraulic Pressure to Material of Stays

Area at smallest part Area supported by each stay Working Pressure by Rules Tubes:—Diameter 1 3/4" x 1 1/4"

Thickness 1644 1344 1132 Number 2023 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 U Tube Date of Approval of Plan 12.2.35 Tested by Hydraulic Pressure to 725 lb.

Date of Test 24.2.36 2.5.36 10.5.36 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler 7/10

Diameter of Safety Valve Double 2 1/2" Improved high lift. Pressure to which each is adjusted 425 lb. Is casing gear fitted 7/10

Is a drain cock or valve fitted at lowest point of superheater 7/10 Number, diameter, and thickness of tubes 675 1 1/2 108.

Spare Gear. Tubes 450 Gaskets or joints:—Manhole 1/2" women Handhole - do. Handhole plates

Superheater 250.

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

1935/ May 15.16. June 25. July 5.11. Aug. 12.19.28.
 Dates of Survey During progress of Sept. 11.25. Oct. 24.30. Dec. 16.
 work in shops - 1936/ Jan. 24 Feb. 24 Mar. 10.
 while During erection on 1936/ Mar. 16.25. Apr. 15.16.27.28.30. May. 11.22.25
 building board vessel - - - June 5. July 6.7.21
 Is the approved plan of boiler forwarded herewith 7/10
 Total No. of visits 32 - (including 28)

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 machinery report attached.)

Survey Fee In month report : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 5 AUG 1936

Assigned See Rev. J.C. 2619