

REPORT ON WATER TUBE BOILERS.

No. 2576

Received at London Office

6 AUG 1935

Writing Report 29th July 1935 When handed in at Local Office 1st August 1934 Port of Barrow
 in Survey held at Barrow Date, First Survey _____ Last Survey 25th July 1935
 Bk. on the V.L.S. Orion (bickers-Armstrongs L^{td} 40697) Number of Visits _____ Tons { Gross 23371
 Net 14098
 Built at Barrow By whom built bickers-Armstrongs L^{td} When built 1935
 Boilers made at Barrow By whom made bickers-Armstrongs L^{td} When made 1935
 Boilers made at Barrow By whom made — When made 1935
 Indicated Horse Power 4912 Owners Orient Steam Navigation L^{td} Port belonging to London

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Engelhardt, Robertson & Colville L^{td} 1490
 Plan for Record 3 Date of Approval of plan 2/3/34, 22/3/34, 24/4/34, 11/6/34 Number and Description or Type
 of Boilers Two Babcock & Wilcox Type Working Pressure 450 lb. Tested by Hydraulic Pressure to 425 lb. Date of Test 8 March 1935
 of Certificate 460 Can each boiler be worked separately Yes Total Heating Surface of Boilers 4140 sq ft
 Draught fitted Yes Area of fire grate (coal) in each Boiler _____ Total grate area of boilers in vessel including
 and Auxiliary _____ No. and type of burners (oil) in each boiler Four ball and Howden No. and description of safety valves on
 boiler Double spring loaded high lift Area of each valve 9.14.16 sq in Pressure to which they are adjusted 450 lb
 They fitted with easing gear Yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler —
 Least distance between boilers or uptakes and bunkers or woodwork 2'-6" Height of Boiler 14'-3" Width and Length 16'-7" x 14'-9"
 in Drums:—Number in each boiler One Inside diameter 3'-6" Material of plates Mild Steel Thickness 15/8"
 of Tensile Strength 28/32 tons Are drum shell plates welded or flanged No Description of riveting:—
 seams Dr. lap long. seams Solid forging Diameter of rivet holes in long. seams _____ Pitch of Rivets _____
 of plate or width of butt straps _____ Thickness of straps _____ Percentage strength of long. joint:—Plate _____ Rivet _____
 Diameter of tube holes in drum 4 1/8" Pitch of tube holes 4 1/4" Percentage strength of shell in way of tubes 43.1
 Drum has a flat side state method of staying _____ Depth and thickness of girders at centre
 (fitted) _____ Distance apart _____ Number and pitch of stays in each _____ Working pressure
 Rules _____ **Steam Drum Heads or Ends:**—Material Steel Thickness 1 7/8" Radius as on stayed 3'-0"
 of Manhole or Handhole 15" x 11" **MUD** **Water Drums:**—Number in each boiler One Inside Diameter 6 x 6 square
 Material of plates Steel SA Thickness 3/4" nominal Range of tensile strength 26/30 tons Are drum shell plates welded
 or flanged No Description of riveting:—Cir. seams _____ long. seams _____ Diameter of Rivet Holes in
 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 _____
 Material or how stayed _____ Size of manhole or handhole _____ **Headers or Sections:**—Number 120
 Material Steel SA Thickness 1/16" nominal Tested by Hydraulic Pressure to 425 lb. Material of Stays _____
 at smallest part _____ Area supported by each stay _____ Working Pressure by Rules 450 lb **Tubes:**—Diameter 1 13/16"
 Thickness 4 x 9 lbs. Number 400 **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
 Rules _____ **Crown or End Plates:**—Material _____ Thickness _____ How stayed _____

SUPERHEATER. Type Water Interdeck Date of Approval of Plan 11/6/34 Tested by Hydraulic Pressure to 425 lb
 Date of Test 10/10/34 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" Pressure to which each is adjusted 440 lb. Is easing gear fitted Yes
 Is drain cock or valve fitted at lowest point of superheater Yes Number, diameter, and thickness of tubes 80-1 1/2-8 lbs.
 Pressure Gear. Tubes 227 Gaskets or joints 9 Manhole 100% Handhole 100% Handhole plates 10 in diameter 30 in length 1/4 in thickness
6 off each for Superheater

(VICKERS-ARMSTRONGS LTD.) The foregoing is a correct description,
A. Mitchell Manufacturer.

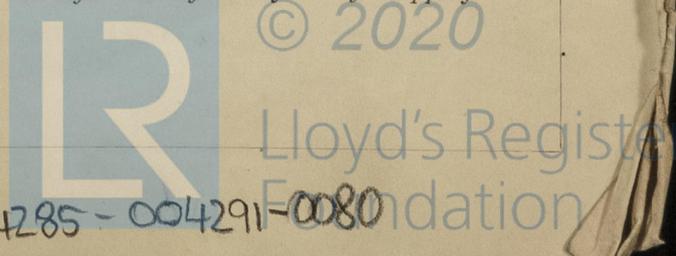
During progress of survey work in shops: 1934. June 7, 19, 20, July 23, 24, Sept 4, 7, 25. Oct 24, 10, 19, 23. Is the approved plan of boiler forwarded herewith Yes
 During erection on board vessel: Oct 9, 12, 17, May 1, 15, 21, June 1, 4, 5, 17, July 2, 4, 5, 10, 15. Total No. of visits 39

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special
Survey to the approved plans and the Rules. They have been efficiently mounted, tested and fitted on
board and their safety valves adjusted under steam. (Please also see Glasgow report 4058309A)

Survey Fee ... £ Included in: When applied for 1st August 1935
 Travelling Expenses (if any) £ Machinery for When received 2nd August 1935

Wm. D. King
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FBI, 9 AUG 1935 TUE, 13 AUG 1935
 signed See Rev J.E 2576



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