

REPORT ON WATER TUBE BOILERS.

APR 1945

Received at London Office

Date of writing Report 6/3/1945 When handed in at Local Office 7/3/1945 Port of WEST HARTLEPOOL

No. in Survey held at 5/5 "WAVE SOVEREIGN" Date, First Survey 29/2/44 Last Survey 23/3/1945
Reg. Bk. (Number of Visits 52) Tons { Gross 8181 Net 4559

Built at Swanton Steel on Seas By whom built Furness Shipbuilding & S. 364 When built
Engines made at Hartlepool By whom made Richardsons, Westgate & Co. S. 2754 When made 1945
Boilers made at Hartlepool By whom made Richardsons, Westgate & Co. S. 2754 When made 1945
Nominal Horse Power 1226 Owners Not known Port belonging to

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

Date of Approval of plan 18/6/42 Number and Description or Type of Boilers 2 Foster Wheeler "D" type Working Pressure 490 lbs Tested by Hydraulic Pressure to 785 lbs Date of Test 14-3-45

No. of Certificate 4046 Can each boiler be worked separately Yes Total Heating Surface of Boilers 6840 sq ft (2) 1660 (2) 4810

Is forced draught fitted Yes Area of fire grate (coal) in each boiler oil fired No. and description of safety valves on each boiler 3 Wallsend Stouden Pressure to which they are adjusted

Are they fitted with easing 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 15-9 Height of boiler 17-5 3/8 x 11-7 1/8

Steam Drums:—Number in each boiler One Inside diameter 3-6 Thickness of plates 1 1/8

Range of Tensile Strength 28/32 tons Are drum shell plates welded or flanged Welded Description of riveting:—
Cir. seams long. seams Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets

Lap of plate or width of butt straps 2 1/4 x 1 1/4 Thickness of straps 2 1/4 x 1 1/4 Percentage strength of long. joint:—Plate 2 1/4 = 55.5 Rivet 1 1/4 = 44.4

Diameter of tube holes in drum 2 1/4 x 1 1/4 Pitch of tube holes 4 1/2 x 3 1/2 Percentage strength of shell in way of tubes 1 1/4 = 44.4

Working pressure by rules 26/30 tons Steam Drum Heads or Ends:—Range of tensile strength 26/30 tons Thickness of plates 1 1/8

Radius or how stayed 3-6 Size of manhole or handhole 16 x 12 Working pressure by rules 26/30 tons Water Drums:—Number in each boiler One Inside Diameter 2-9 Thickness of plates 1 1/8 Range of tensile strength 28/32 tons Are drum shell plates welded or flanged Welded Description of riveting:—Cir. seams long. seams Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 2 1/4 x 1 1/4 Thickness of straps 2 1/4 x 1 1/4 Pitch of tube holes 4 1/2 x 3 1/2

Percentage strength of long. joint:—Plate 2 1/4 = 55.5 Rivet 1 1/4 = 44.4 Diameter of tube holes in drum 2 1/4 x 1 1/4 Pitch of tube holes 4 1/2 x 3 1/2

Percentage strength of drum shell in way of tubes 1 1/4 = 44.4 Working pressure by rules 26/30 tons Water Drum Heads or Ends:—Range of tensile strength 26/30 tons Thickness of plates 1 1/8

Size of manhole or handhole 16 x 12 Working pressure by rules 26/30 tons Headers or Sections:—Number 3

Material Steel Thickness 7/8 Tested by Hydraulic Pressure to 785 lbs Tubes:—Diameter 2 1/4 x 1 1/4

Thickness 7WG & 11WG Number 384 + 1040 Steam Dome or Collector:—Description of Joint to Shell long. seams Range of tensile strength 28/32 tons Diameter of rivet holes 1 1/8 Pitch of rivets 2 1/4 x 1 1/4 Lap of plate or width of butt straps 2 1/4 x 1 1/4 Thickness of straps 2 1/4 x 1 1/4 Percentage strength of long. joint:—Plate 2 1/4 = 55.5 Rivet 1 1/4 = 44.4

Working Pressure of shell by rules 26/30 tons Crown or End Plates:—Range of tensile strength 26/30 tons Working pressure by rules 26/30 tons Thickness 1 1/8 Radius or how stayed 3-6 Inside Diameter 6 1/4 x 6 1/4

SUPERHEATER. Drums or Headers:—Number in each boiler 2 Thickness 1 1/8 Material Steel Range of tensile strength 28/32 tons Are drum shell plates welded or flanged Welded Description of riveting:—Cir. seams long. seams Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 2 1/4 x 1 1/4 Thickness of straps 2 1/4 x 1 1/4 Pitch of tube holes 4 1/2 x 3 1/2

Percentage strength of long. joint:—Plate 2 1/4 = 55.5 Rivet 1 1/4 = 44.4 Diameter of tube holes in drum 1 1/4 Pitch of tube holes 2 1/2 x 1 1/2

Percentage strength of drum shell in way of tubes 1 1/4 = 44.4 Working pressure by rules 26/30 tons Drum Heads or Ends:—Flat Thickness 1 1/8 Range of tensile strength 28/32 tons Radius or how stayed 2 Size of manhole or handhole 2

Working pressure by rules 26/30 tons Number, diameter, and thickness of tubes 300 - 1 1/4 x 11WG Tested by Hydraulic Pressure to 785 lbs

Date of Test 16-1-45 Is a safety valve fitted to each section of the superheater which can be shut off from the boiler Yes

No. and description of Safety Valves 1-2 1/2" Lockburns, Simp. High Lift Area of each set of valves 7.96 sq in

Pressure to which they are adjusted 489 lbs Is easing gear fitted Yes

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

Richardsons, Westgate & Co. Limited
The foregoing is a correct description,
W. S. ... DIRECTOR Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1944 Feb 29 - March 30 - April 3, 12, 17, 29 - May 1 - 18, 19, 23, July 7, 18, 21. (9 in immediate date) 1945 Jan 3, 4, 11, Feb 7, 8, 9, 28, Mar 5, 6, 9, 14, 16, 23 } Is the approved plan of boiler forwarded herewith No
Total No. of visits 52

Is this boiler a duplicate of a previous case Yes. If so, state vessel's name and report No. BOILERS N. 2752 RPT N. 18619.

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

These boilers, with their superheaters and economisers have been constructed under special survey and in accordance with the approved plans and specification for a working pressure of 490 lbs. The materials and workmanship have been found good.

Survey Fee ... £ See Report When applied for, 19

Travelling Expenses (if any) £ to follow When received, 19

See Copy West Hpl. letter 11/5/45 attached.

Committee's Minute 11. 5 APR 1945

Assigned See F.L. Machy, rpt.



upon completion the boilers, superheater and economisers were hydraulically tested to 785 lbs^{sq} - and found sound & tight.

These boilers have been despatched to Staverton Hill for fitting on board *Burness S.P. Co's ship no 364.*

These boilers have now been securely fitted on board & examined under working conditions & found satisfactory.

On completion the SV's of both boilers were adjusted under steam, the SV's of the drums to 585 lbs & those of the Superheaters to 489 lbs.

S Norman Stuart

E.W. Drums fitted in Boilers.

Steam Drum	E.W.	1430 / 467 H.M.P.	Birmingham	Best	no C. 3097
"	E.W.	1431 / 479 H.M.P.	"	"	no C 3126.
Water Drum	E.W.	1459 / 456 H.M.P.	"	"	no C 3020.
"	E.W.	1470 / 464 H.M.P.	"	"	no C 3074.



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