

REPORT ON WATER TUBE BOILERS

SUNDERLAND RPT. NO. 35873

No. 19302

7 DEC 1951

Received at London Office

Date of writing Report 6-12-1951 When handed in at Local Office 6-12-1951 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 15th January, Last Survey 5th December, 1951.

Reg. Bk. on the CALTEX DELHI. (Number of Visits 19) Tons { Gross 857 Net 4808

Built at Sunderland By whom built W^m Doxford & Sons L^{td} When built 1951

Engines made at -do- By whom made -do- When made 1951

Boilers made at West Hartlepool By whom made Richardson Westgarth & Co L^{td} When made 1951

Nominal Horse Power M.N. 288 each Owners Oversea Tankship (UK) L^{td} Port belonging to London.

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

Date of Approval of plan 30-6-49 DESIGN PRESS 250 lbs. Number and Description or Type of Boilers 2-Foster Wheeler Water Tube Boilers Working Pressure 220 lbs Tested by Hydraulic Pressure to 425 lbs Date of Test 26-11-51

No. of Certificate 4154 Can each boiler be worked separately Yes Total Heating Surface of Boilers 49200 Including forced draught fitted Yes Area of fire grate (coal) in each Boiler 100 sq ft. 3460 sq each boiler

No. and type of burners (oil) in each boiler 2-Jodds No. and description of safety valves on each boiler One 2" Single Spring Lockham High Lift Area of each set of valves per boiler { per rule 220 lbs Suppl. as fitted 3.140" Pressure to which they are adjusted 250 lbs Sub. Air Are they fitted with easing gear Yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler Yes Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Height of boiler 16'-8 1/2"

Width and Length 10'-4 1/2" x 11'-6 3/4" Steam Drums:—Number in each boiler One Inside diameter 3'-5 3/4"

Thickness of plates 1 5/16" Range of Tensile Strength 28-32 Tons Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Marshall & Anderson L^{td} Motherwell Have all the requirements of the rules for Class I vessels been complied with Yes Description of riveting:—Cir. seams ✓ long. seams ✓

Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Thickness of straps ✓ Percentage strength of long. joint:—Plate ✓ Rivet 3/4" = 33 1/3% Diameter of tube holes in drum 2" x 1 1/8" Pitch of tube holes 3" x 1 3/4"

Percentage strength of shell in way of tubes 1 3/4" = 35.7% Steam Drum Heads or Ends:—Range of tensile strength 26-30 Tons

Thickness of plates 1 5/16" Radius or how stayed 3'-5 3/4" inside Size of manhole or handhole 16" x 12" Water Drums:—Number in each boiler One Inside Diameter 2'-5 1/2" Thickness of plates 1 1/8" Range of tensile strength 28-32 Tons Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Marshall & Anderson L^{td} Motherwell Have all the requirements of the rules for Class I vessels been complied with Yes Description of riveting:—Cir. seams ✓ long. seam ✓

Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Thickness of straps ✓

Percentage strength of long. joint:—Plate ✓ Rivet 3/4" = 33 1/3% Diameter of tube holes in drum 2" x 1 1/8" Pitch of tube holes 3" x 1 3/4"

Percentage strength of drum shell in way of tubes 1 3/4" = 35.7% Water Drum Heads or Ends:—Range of Tensile strength 26-30 Tons

Thickness of plates 1 1/8" Radius or how stayed 2'-5 1/2" inside Size of manhole or handhole 16" x 12"

Headers or Sections:—Number ✓ Material ✓ Thickness ✓ Tested by Hydraulic Pressure to ✓

Tubes:—Diameter 1 1/8" od. Thickness 8 wg 11 wg Number 155 per boiler Steam Dome or Collector:—Description of Joint to Shell ✓ Inside diameter ✓ Thickness of shell plates ✓ Range of tensile strength ✓ Description of longitudinal joint ✓ If fusion welded, state name of welding firm ✓ Have all the requirements of the rules for Class I vessels been complied with ✓ Diameter of rivet holes ✓

Pitch of rivets ✓ Thickness of straps ✓ Percentage strength of long. Joint ✓ Plate ✓ Rivet ✓

Crown or End Plates:—Range of tensile strength ✓ Thickness ✓ Radius or how stayed ✓

SUPERHEATER. Drums or Headers:—Number in each boiler One Inside Diameter 5 1/4" x 4 1/2" inside

Thickness 3/4" Material Mild Steel Range of tensile strength 28-32 Tons Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Foster Wheeler L^{td} Have all the requirements of the rules for Class I vessels been complied with Yes Description of riveting:—Cir. seams ✓ long. seams ✓

Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Thickness of straps ✓ Percentage strength of long. joint:—Plate ✓ Rivet ✓ Diameter of tube holes in drum 2" x 1 1/8" Pitch of tube holes 3 1/4" Percentage strength of drum shell in way of tubes 38.4% Drum Heads or Ends:—Two " + .003" Thickness 1 3/8" Range of tensile strength 28-32 Tons

Radius or how stayed ✓ Size of manhole or handhole 2.030 " + .003" Number, diameter, and thickness of tubes 12 x 2" od. x 76 thick

Tested by Hydraulic Pressure to 425 lbs Date of Test 15-11-51 Is a safety valve fitted to each section of the superheater which can be shut off from the boiler ✓ No. and description of Safety Valves One 2" Double Spring Lockham High Lift Area of each set of valves 6.30" Pressure to which they are adjusted ✓ Is easing gear fitted Yes

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

RICHARDSONS, WESTGARTH & Co. LIMITED
The foregoing is a correct description,

I. P. Hunt Manufacturer.
DIRECTOR

Dates of Survey while building: During progress of work in shops: 1951. Jan. 15. Feb. 13. 16. March 19. April 12. Is the approved plan of boiler forwarded herewith Retained for use of Duplicate contract
During erection on board vessel: May 10. June 5. Aug. 31. Sept. 24. Oct. 1. 8. 10. 22. Total No. of visits 19.
Nov. 6. 9. 15. 16. 26. Dec. 5.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers have been constructed under special survey in accordance with approved plans, Secretary's letter and the rules of the Society for a working pressure of 220 lb. The materials and workmanship are good. On completion they were tested by hydraulic pressure to 425 lbs and found sound and tight.

Survey Fee ... £ 53:16:0 When applied for, 6-12-1951. These boilers have been securely fixed and secured & safety valves of lbs. & suppl. & adjusted as usual
Travelling Expenses (if any) £ 82:14:0 When received, 19

Committee's Minute FRI. 26 SEP 1952
Assigned See F.E. mch. rpt Sld 35873
H. A. Wilson. W. Armstrong.
Engineer Surveyor to Lloyd's Register of Shipping.