

# REPORT ON WATER TUBE BOILERS.

No. 102811

Received at London Office

Date of writing Report

When handed in at Local Office

18. 4. 45

Port of NEWCASTLE ON TYNE.

Date, First Survey

1st May 1944

Last Survey

9th April 1945

(Number of Visits 97)

Gross

Tons

Net

No. in Survey held at Newcastle

Reg. Book.

on the "EMPIRE MARS."

uilt at Sunderland

By whom built Sir James Laing & Co. Ltd

Yard No. 755 When built 1945-4.

Engines made at Manchester

By whom made Metropolitan-Vickers Ltd

Engine No. 4393 When made 1945

Boilers made at Newcastle

By whom made N.E. Mar. Eng. Co. (1938) Ltd

Boiler No. 3076 When made 1945

nominal Horse Power 1236

Owners Min. of War Transport.

Port belonging to

Tubes by Galbraith & Co.

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

Date of Approval of plan 7/9/43, 4/10/43, also Letter E of 21/9/44 re-increase of WP to 490 lb and S.V. adjustment

No. and Description or Type 2. FOSTER-WHEELER "D" TYPE Working Pressure 490 lb Tested by Hydraulic Pressure to 785 lb Date of Test 6-10-44

No. of Certificate 1129. Can each boiler be worked separately YES Total Heating Surface of Boilers 7008 sq. ft.

Is forced draught fitted YES Area of Fire Grate (coal) in each Boiler 320 sq. ft.

No. and type of burners (oil) in each boiler 3 of Wallcend-Howden Type No. and description of safety valves on

each boiler one of 2" dia Cockburn's Imp. H.L. on Steam Drum Area of each set of valves per boiler 10.6 sq. in.

Are they fitted with easing gear YES Pressure to which they 11.09 lb

the donkey boiler No Smallest distance between boilers or uptakes and bunkers 3' 0"

Width and length 17' 6" x 12' 8" abt. Steam Drums: Number in each boiler One Inside diameter 42"

Thickness of plates 15/8" Range of tensile strength 28-32 tons (shell) Are drum shell plates welded

or flanged Welded If fusion welded, state name of welding firm John Thompson & Co, Wolverhampton Have all the requirements of the Rules

for Class I vessels been complied with YES Description of riveting: Circ. seams long. seams

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

long. joint: Plate Rivet 50% min. for 2" x 1 1/4" Diameter of tube holes in drum 2", 1 1/4" Pitch of tube holes at 2' - 4 1/2" mean

Percentage strength of shell in way of tubes 50% min. for 2" x 1 1/4" Steam Drum Heads or Ends: Range of tensile strength 26-30 tons

Thickness of plates 17/8" + 1 3/4" Radius or how stayed 3' 6" Size of manhole or handhole 16" x 12" Water Drums: Number

in each boiler One Inside diameter 33" Thickness of plates 19/32" Range of tensile strength 28-32 tons Are drum shell plates

welded or flanged Welded If fusion welded, state name of welding firm John Thompson & Co, Wolverhampton Have all the requirements of the Rules

for Class I vessels been complied with YES Description of riveting: Circ. seams long. seams

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

long. joint: Plate Rivet 55.5 at 2" dia Water Drum Heads or Ends: Range of tensile strength 26-30 tons

Percentage strength of drum shell in way of tubes 50% at 1 1/4" Size of manhole or handhole 16" x 12"

Thickness of plates 19/16" Radius or how stayed 2' 9" Tested by hydraulic pressure to 785 lb

Headers or Sections: Number 3. Material M. Stl. Thickness 7/8" Number 406 of 2" for 2 Bbls

Tubes: Diameter 2" + 1 1/4" Thickness 7/16" for 2, 1 1/4" for 1 1/2" Number 1040 of 1 1/2" 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 for 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 2. Inside diameter 6 1/4" x 6 1/4"

Thickness 1 1/8" Material M. Stl. Range of tensile strength 28-32 tons Are drum shell plates welded

or flanged Weldless If fusion welded, state name of welding firm Have all the requirements of the Rules

for Class I vessels been complied with YES Description of riveting: Circ. seams long. seams

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

long. joint: Plate Rivet 31% Drum Heads or Ends: Flat ends Thickness 1 1/8" Pitch of tube holes 2 1/8" x 1 1/2"

Radius or how stayed Size of manhole or handhole 2" dia. Number, diameter, and thickness of tubes 296 - 1 1/4" dia x 11 W.G.

Tested by hydraulic pressure to 785 lb Date of test 31-10-44 + 2-11-44 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 2 of 2 1/2" Cockburn's Imp. H.L. Area of each set

of valves 7.95 sq. in. Pressure to which they are adjusted 489 lb for 475 lb Is easing gear fitted YES

Spare Gear. Has the spare gear required by the Rules been supplied YES

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.

John Neill

Manufacturer.

DIRECTOR.

Is the approved plan of boiler forwarded herewith No.

Total No. of visits

Dates of Survey During progress of work in shops - - - while During erection on board vessel - - - building

See Machinery Report

Is this boiler a duplicate of a previous case YES If so, state vessel's name and report No. Empire Dynasty, Thompson's Yard No 631 R.W. Co. Bldg 2744.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c. These Boilers have been constructed under special survey in accordance with the approved plans & specification, and the materials & workmanship are good. The Boilers have been satisfactorily fitted on board & tested under steam. See also Machy Rpt 4a.

Survey Fee ... £ See Rpt 4a. When applied for 19 Travelling Expenses (if any) £ When received 19

A Watt.

Engineer Surveyor to Lloyd's Register of Shipping.

Date. Fri. 4 MAY 1945

Committee's Minute See F.E. machy. rpt

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