

# REPORT ON BOILERS.

No. 95095

Date of writing Report 19 3/5/37 When handed in at Local Office 3/5/37 Port of NEWCASTLE-ON-TYNE  
 Received at London Office JUN -1 1937  
 No. in Reg. Book. 87515 Survey held at South Shields Date, First Survey 11 May 1936 Last Survey 17 May 1937  
 on the S.S. BALTISTAN (Number of Visits 1)  
 Master H.P. Peeples Built at S. Shields By whom built J. Readhead & Sons Ltd No. 508 When built 1937  
 Engines made at South Shields By whom made J. Readhead & Sons Ltd Engine No. 508 When made 1937  
 Boilers made at South Shields By whom made J. Readhead & Sons Ltd Boiler No. 508 When made 1937  
 Nominal Horse Power \_\_\_\_\_ Owners Strick Line (1923) Ltd Port belonging to London  
 Tons { Gross 6803.46  
 Net 4194.01

## MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

Manufacturers of Steel Steel Company of Scotland Ltd (Letter for Record S)  
 Total Heating Surface of Boilers 1994 sq ft Is forced draught fitted Yes Coal or Oil fired Both  
 No. and Description of Boilers One single ended multitubular Working Pressure 220 lbs/sq in  
 Tested by hydraulic pressure to 380 lbs/sq in Date of test 16-9-36 No. of Certificate 688 Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler 52 sq ft No. and Description of safety valves to each boiler 2 Double spring loaded (Giant H.L.)  
 Area of each set of valves per boiler { per Rule 7.06 sq ft as fitted 7.10 sq ft Pressure to which they are adjusted 220 lbs/sq in 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 2'-0" Is oil fuel carried in the double bottom under boilers Yes  
 Smallest distance between shell of boiler and tank top plating 2'-7" Is the bottom of the boiler insulated Yes  
 Largest internal dia. of boilers 13'-6 3/8" Length 12'-0" Shell plates: Material S.W. Steel Tensile strength 29-33 lbs/sq in  
 Thickness 1 5/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R.L.J. inter. \_\_\_\_\_  
 long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 3/8" long. seams 1 3/8" Pitch of rivets { 4 1/4" 9 1/4"  
 Percentage of strength of circ. end seams { plate 67.6 rivets 42.2 Percentage of strength of circ. intermediate seam { plate \_\_\_\_\_ rivets \_\_\_\_\_  
 Percentage of strength of longitudinal joint { plate 95.13 rivets 90.6 combined 88.42 Working pressure of shell by Rules 221.2 lbs/sq in  
 Thickness of butt straps { outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 Heighlon Type  
 Material S.W. Steel Tensile strength 26-30 lbs/sq in Smallest outside diameter 3'-3"  
 Length of plain part { top \_\_\_\_\_ bottom \_\_\_\_\_ Thickness of plates { crown 5/8" bottom 5/8" Description of longitudinal joint \_\_\_\_\_  
 Dimensions of stiffening rings on furnace or c.c. bottom \_\_\_\_\_ Working pressure of furnace by Rules 233 lbs/sq in  
 End plates in steam space: Material S.W. Steel Tensile strength 26-30 lbs/sq in Thickness 1 3/16" Pitch of stays 19 x 17"  
 How are stays secured Double nuts, washers outside (1 1/2" dia x 1 1/2" thick) Working pressure by Rules 233 lbs/sq in  
 Tube plates: Material { front S.W. Steel back S.W. Steel Tensile strength { 26-30 lbs/sq in Thickness { 1 5/16" 1 3/16"  
 Mean pitch of stay tubes in nests 9 5/8" Pitch across wide water spaces 14" Working pressure { front 224 lbs/sq in back 255 lbs/sq in  
 Girders to combustion chamber tops: Material S.W. Steel Tensile strength 29-33 lbs/sq in Depth and thickness of girder  
 at centre 9 x 1 3/4" Length as per Rule 2'-9" Distance apart 9 13/16" No. and pitch of stays  
 on each 2 @ 9 1/8" Working pressure by Rules 225 lbs/sq in Combustion chamber plates: Material S.W. Steel  
 Tensile strength 26-30 lbs/sq in Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 7/8"  
 Pitch of stays to ditto: Sides 9 x 9 7/8" Back 10 x 8 3/4" Top 9 1/8 x 9 13/16" Are stays fitted with nuts or riveted over Nuts  
 Working pressure by Rules 221 lbs/sq in Front plate at bottom: Material S.W. Steel Tensile strength 26-30 lbs/sq in  
 Thickness 1 5/16" Lower back plate: Material S.W. Steel Tensile strength 26-30 lbs/sq in Thickness 7/8"  
 Pitch of stays at wide water space 14 x 8 3/4" Are stays fitted with nuts or riveted over Nuts  
 Working Pressure 228 lbs/sq in Main stays: Material S.W. Steel Tensile strength 28-32 lbs/sq in  
 Diameter { At body of stay, or over threads } 3 5/8" No. of threads per inch 6 Area supported by each stay 332.5 sq in  
 Working pressure by Rules 221 lbs/sq in Screw stays: Material S.W. Steel Tensile strength 26-30 lbs/sq in  
 Diameter { At turned off part, or over threads } 1.975" No. of threads per inch 9 Area supported by each stay 89.5 sq in

Working pressure by Rules **240 lbs** Are the stays drilled at the outer ends  Margin stays: Diameter <sup>At turned off part.</sup> **2"** <sub>or Over threads</sub>

No. of threads per inch **9** Area supported by each stay **107.50** Working pressure by Rules **229 lbs**

Tubes: Material **Iron** External diameter <sup>Plain</sup> **3"** <sub>Stay</sub> **3"** Thickness <sup>8.1.5.9</sup> **3/8"** <sub>5/16</sub> No. of threads per inch **9**

Pitch of tubes **11 1/2" x 8 1/4"** Working pressure by Rules **246 lbs** Manhole compensation: Size of opening in shell plate **16" x 12"** Section of compensating ring **8" x 1 5/16"** No. of rivets and diameter of rivet holes **28 x 1 3/8" dia**

Outer row rivet pitch at ends **9 1/4"** Depth of flange if manhole flanged  Steam Dome: Material

Tensile strength  Thickness of shell  Description of longitudinal joint

Diameter of rivet holes  Pitch of rivets  Percentage of strength of joint <sup>Plate</sup>  <sub>Rivets</sub>

Internal diameter  Working pressure by Rules  Thickness of crown  No. and diameter of stays  Inner radius of crown  Working pressure by Rules

How connected to shell  Size of doubling plate under dome  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater **The Superheater Co Ltd** Manufacturers of <sup>Tubes</sup>  <sub>Steel forgings</sub> **See separate certificate**  <sub>Steel castings</sub>

Number of elements **53** Material of tubes **S.S. Steel** Internal diameter and thickness of tubes **16"/m - 2 1/2"/m**

Material of headers **Forged Steel** Tensile strength  Thickness  Can the superheater be shut off and the boiler be worked separately **Yes** Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **Yes**

Area of each safety valve **3.140"** Are the safety valves fitted with easing gear **Yes** Working pressure as per Rules **220 lbs** Pressure to which the safety valves are adjusted **225 lbs** Hydraulic test pressure: tubes **1000 lbs** forgings and castings **660 lbs** and after assembly in place **450 lbs** Are drain cocks or valves fitted to free the superheater from water where necessary **Yes**

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with **Yes**

The foregoing is a correct description,  
**FOR JOHN READHEAD & SONS, LTD** Manufacturer.

Dates of Survey <sup>During progress of work in shops - -</sup>  <sub>while building</sub> <sup>During erection on board vessel - - -</sup>  Are the approved plans of boiler and superheater forwarded herewith **Yes** (If not state date of approval.)

Total No. of visits **See main Report**

**J. H. Matthews**  
 CHAIRMAN & MANAGING DIRECTOR.

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **ARMANISTAN. N° 94636**

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

The boiler has been built under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good. Hydraulic test satisfactory. It has been efficiently installed & fixed in vessel, examined under steam & the safety valves adjusted under steam to the approved pressure.

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

Travelling Expenses (if any) £ **See main Report** When received, **19**

**J. H. Matthews**  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 4 JUN 1937

Assigned **See NWC 76 95095**



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