

# REPORT ON BOILERS.

No. 18415.

20 JAN 1948

Received at London Office

Date of writing Report 14th Jan. 48. When handed in at Local Office 17th Jan. 48 Port of MIDDLESBROUGH.

No. in Survey held at STOCKTON-on-TEES. Date, First Survey 12th Nov. 1947 Last Survey 13th Jan. 48.

on the "M.T. Pericles" (Number of Visits 4)

Built at By whom built Yard No. When built

Engines made at By whom made Engine No. When made

Boilers made at Stockton-on-Tees, By whom made Stockton C.E. & Riley Boilers Ltd. Boiler No. 6993 When made 1947

Nominal Horse Power Owners Port belonging to

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

Manufacturers of Steel Appleby-Frodingham Steel Co. Ltd. (Letter for Record S)

Total Heating Surface of Boilers 1850 Is forced draught fitted Yes Coal or Oil fired Yes

No. and Description of Boilers 2 S.E. Multitubular Marine Working Pressure 150 lbs per sq. in.

Tested by hydraulic pressure to 275 Date of test 13.1.48. No. of Certificate 7229 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler

Area of each set of valves per boiler {per Rule as fitted} Pressure to which they are adjusted Are they fitted with easing gear

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 Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 12'4" Length 11'4" Shell plates: Material Steel Tensile strength 29/33

Thickness 27/32" Are the shell plates welded or flanged No Description of riveting: circ. seams DR.L

long. seams TR.DBS. Diameter of rivet holes in circ. seams 1.1/16" Pitch of rivets 3.233

Percentage of strength of circ. end seams {plate 67.1% rivets 50.9} Percentage of strength of circ. intermediate seam {plate rivets}

Percentage of strength of longitudinal joint {plate 86.0 rivets 90.9 combined}

Thickness of butt straps {outer 21/32" inner 25/32"} No. and Description of Furnaces in each Boiler 2 Morrison Corrugated

Material Steel Tensile strength 26-30 Smallest outside diameter 3'8 1/2"

Length of plain part {top bottom} Thickness of plates {crown 15/32" bottom} Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom End plates in steam space: Material Steel Tensile strength 26-30 Thickness 27/32" Pitch of stays 16 1/2" x 15"

How are stays secured Double nuts and washers and screwed into both plates.

Tube plates: Material {front back} Steel Tensile strength {26-30} Thickness {27/32" 11/16"}

Mean pitch of stay tubes in nests 9 1/2" Pitch across wide water spaces 13 1/2"

Girders to combustion chamber tops: Material Steel Tensile strength 26,30 Depth and thickness of girder

at centre 8 1/2 - 25/32" Length as per Rule 2' 6" Distance apart 5 1/2" No. and pitch of stays

in each Single plate girders Combustion chamber plates: Material Steel Tensile strength

Tensile strength 26-30 Thickness: Sides 5/8" Back 19/32" Top 5/8" Bottom 5/9"

Pitch of stays to ditto: Sides 10" x 8" Back 9" x 9" Top Welded girders Are stays fitted with nuts or riveted over Nuts

Front plate at bottom: Material Steel Tensile strength 26-30 Thickness 27/32" Lower back plate: Material Steel Tensile strength 26-30 Thickness 25/32"

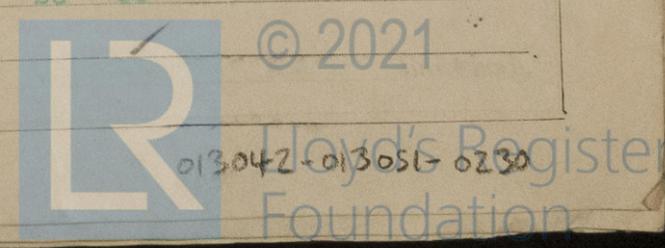
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 28-32

Diameter {At body of stay or Over threads} 2 3/8" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26-30

Diameter {At turned off part or Over threads} 1 1/2" No. of threads per inch 9



25.1.48

5-A 18415

Are the stays drilled at the outer ends No. Margin stays: Diameter <sup>At turned off part,</sup> 1 3/4"  
 or <sup>Over threads</sup> 1 3/4"  
 No. of threads per inch 9  
 Tubes: Material H.R. Weldless External diameter <sup>Plain</sup> 2 1/2" Thickness <sup>10 W.G.</sup> 5/16" No. of threads per inch 9  
<sup>Stay</sup> 2 1/2"  
 Pitch of tubes 3 3/4" x 3 3/4" S. Manhole compensation: Size of opening in  
 shell plate 16" x 12" Section of compensating ring 6 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 56 - 15/16"  
 Outer row rivet pitch at ends 6.11/16" Depth of flange if manhole flanged - Steam Dome: Material None  
 Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
 Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</sup> \_\_\_\_\_  
<sup>Rivets</sup> \_\_\_\_\_  
 Internal diameter \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of  
 stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_  
 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 \_\_\_\_\_ Manufacturers of <sup>Tubes</sup> \_\_\_\_\_  
<sup>Steel forgings</sup> \_\_\_\_\_  
<sup>Steel castings</sup> \_\_\_\_\_  
 Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
 Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and  
 the boiler be worked separately \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_  
 Area of each safety valve \_\_\_\_\_ Are the safety valves fitted with easing gear \_\_\_\_\_  
 Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_  
 tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks or  
 valves fitted to free the superheater from water where necessary \_\_\_\_\_  
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,

H. J. G. J. G. J. G. Manufacturer.

Dates of Survey <sup>During progress of</sup> Nov. 12, 27, (1947) Jan. 7, 15, (1948). Are the approved plans of boiler and superheater forwarded herewith 26.11.48.  
<sup>work in shops - -</sup> (If not state date of approval.)  
<sup>while</sup> <sup>During erection on</sup> \_\_\_\_\_  
<sup>building</sup> <sup>board vessel - - -</sup> \_\_\_\_\_ Total No. of visits 4.

Is this Boiler a duplicate of a previous case No 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 and in accordance with the Rule Requirements and approved plan.  
The materials used and the workmanship are good, and upon completion they were hydraulically tested to 275 lbs per sq. in. and found satisfactory.  
These boilers are being forwarded to Sweden for Aktiebolaget Gotaverken's Ship No. 630.

Survey Fee ... .. £ 30 : 16 : 0d. When applied for, 19.1. 19 48.  
 Travelling Expenses (if any) £ : : } When received, \_\_\_\_\_ 19 \_\_\_\_\_

RJ  
 FRI. 18 NOV 1948

C. Roman Skart  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_  
 Assigned See F.E. Melby, rpt.



Rpt. 5a.  
 No. in Reg. Book. \_\_\_\_\_  
 No. in \_\_\_\_\_  
 Built at \_\_\_\_\_  
 Engines made \_\_\_\_\_  
 Boilers made \_\_\_\_\_  
 Nominal Horse \_\_\_\_\_  
 MULTITU \_\_\_\_\_  
 Manufacturers \_\_\_\_\_  
 Total Heating \_\_\_\_\_  
 No. and Desc \_\_\_\_\_  
 Tested by hyd \_\_\_\_\_  
 Area of Fire \_\_\_\_\_  
 Area of each \_\_\_\_\_  
 In case of don \_\_\_\_\_  
 Smallest dista \_\_\_\_\_  
 Smallest dista \_\_\_\_\_  
 Largest intern \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 long. seams \_\_\_\_\_  
 Percentage of \_\_\_\_\_  
 Percentage of \_\_\_\_\_  
 Thickness of \_\_\_\_\_  
 Material \_\_\_\_\_  
 Length of pla \_\_\_\_\_  
 Dimensions of \_\_\_\_\_  
 End plates in \_\_\_\_\_  
 How are stay \_\_\_\_\_  
 Tube plates: \_\_\_\_\_  
 Mean pitch of \_\_\_\_\_  
 Girders to co \_\_\_\_\_  
 at centre \_\_\_\_\_  
 in each \_\_\_\_\_  
 Tensile stren \_\_\_\_\_  
 Pitch of stays \_\_\_\_\_  
 Front plate \_\_\_\_\_  
 Thickness \_\_\_\_\_  
 Pitch of stays \_\_\_\_\_  
 Main stays: \_\_\_\_\_  
 Diameter <sup>At</sup> \_\_\_\_\_  
<sup>Over</sup> \_\_\_\_\_  
 Screw stays \_\_\_\_\_  
 Diameter <sup>At</sup> \_\_\_\_\_  
<sup>Over</sup> \_\_\_\_\_