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# REPORT ON BOILERS.

No. 20013.

Received at London Office.

15 MAY 1954

1975

14 OCT 1953

Writing Report 3rd Oct. 1953. When handed in at Local Office 13th Oct. 53. Port of MIDDLESBROUGH.

Survey held at Stockton-on-Tees. Date, First Survey 11th June. Last Survey 23rd Sept. 1953.

on the Survey vessel PATHFINDER (Number of Visits 13.) Gross 543.85 Tons Net 197.68

at Bowes By whom built J. Samuel White. Yard No. 1975. When built 1954.

nes made at Newbury By whom made Plenty & Sons Ltd., Contract No. 2895. When made 1953.

rs made at Stockton on Tees. By whom made Stockton Chemical Engineers & Riley Boilers. Boiler No. 7347 When made 1953.

nal Horse Power MN 140 Owners Government of Nigeria Port belonging to Lagos.

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

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

l Heating Surface of Boilers 1987 sq.ft. ✓ Of Superheaters -

for Register Book 1987 sq.ft. Is forced draught fitted. Coal or Oil fired Oil

and Description of Boilers One S.E. Multitubular. Working Pressure 200 lbs/sq.in.

d by hydraulic pressure to 350 lbs. ✓ Date of test 23.9.53. No. of Certificate 7405 Can each boiler be worked separately -

of Firegrate in each Boiler - No. and Description of safety valves to each boiler 1 - D.S. 1 1/2" ordinary type

of each set of valves per boiler { per Rule 11.54 as fitted 11.88 Pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes

se of donkey boilers, state whether steam from main boilers can enter the donkey boiler

lest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers.

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

est internal dia. of boilers 13'0" ✓ Length 11'0" ✓ Shell plates: Material O.H. Steel. Tensile strength 29-33 ✓

ision welded, state name of welding Firm Have all the requirements of the Rules for Class I vessels

complied with - Thickness 1.5/32" Are the shell plates welded or flanged Description of riveting: circ. seams { end D.R. Lap. ✓ inter. 3.6036" ✓

seams TR - DBS ✓ Diameter of rivet holes in { circ. seams 1 1/4" ✓ long. seams 1 1/4" ✓ Pitch of rivets { 8.9/16" ✓

centage of strength of circ. end seams { plate 65.2 ✓ rivets 46.8 ✓ Percentage of strength of circ. intermediate seam { plate 85.4 ✓ rivets -

centage of strength of longitudinal joint { plate 92.15 ✓ rivets 92.15 ✓ Working Pressure by rules 202 lbs/sq.in.

ness of butt straps { outer 7/8" ✓ inner 1" ✓ No. and Description of Furnaces in each Boiler Three Deighton corrugated. ✓

rial O.H. Steel. Tensile strength 26-30 ✓ Smallest outside diameter 3'3" ✓

th of plain part { top - bottom - Thickness of plates 9/16" ✓ Description of longitudinal joint welded. ✓

ensions of stiffening rings on furnace or c.c. bottom - Working Pressure by rules 209 lbs/sq.in.

plates in steam space: Material O.H. Steel. Tensile strength 26.30 ✓ Thickness 1.3/32" ✓ Pitch of stays 18" x 17" ✓

are stays secured screwed into plates - double nuts and outside washers. ✓

plates: Material { front O.H. Steel. Tensile strength { 26.30 ✓ Thickness { 27/32 ✓ back " 26.30 ✓ 25/32 ✓

pitch of stay tubes in nests 10 7/8" & 7 1/4" Pitch across wide water spaces 13 1/2" ✓

ers to combustion chamber tops: Material O.H. Steel. Tensile strength 28-32 ✓ Depth and thickness of girder

ntre 9" x 5/8" x 2" ✓ Length as per Rule 2'4.9/16" ✓ Distance apart 10 1/2" max. ✓ No. and pitch of stays

ch 2 @ 9" W.V. by rule 208.3 Combustion chamber plates: Material O.H. Steel. ✓

le strength 26 - 30 ✓ Thickness: Sides 3/4" ✓ Back 21/32" ✓ Top 3/4" ✓ Bottom 3/4" ✓

of stays to ditto: Sides 9" x 8 1/2" ✓ Back 8 1/2" x 8" ✓ Top 10 1/2" x 9" ✓ Are stays fitted with nuts or riveted over nuts. ✓

t plate at bottom: Material O.H. Steel. Tensile strength 26-30 ✓

ness 27/32" ✓ Lower back plate: Material O.H. Steel. Tensile strength 26.32 ✓ Thickness 27/32" ✓

ing. of stays at wide water space 13 1/2" ✓ Are stays fitted with nuts or riveted over nuts and washers. ✓

stays: Material O.H. Steel W.P. by rules 219 lbs/sq.in. Tensile strength 28-32 ✓

eter { At body of stay 3" & 2 1/2" ✓ No. of threads per inch 6 area supported 306 sq.in. ✓ Over threads 2" 1 1/2" & 1 3/8" ✓

v stays: Material O.H. Steel. Tensile strength 28-30 ✓

eter { At turned off part 2" 1 1/2" & 1 3/8" ✓ No. of threads per inch 9 area supported 24.5 sq.in. max. ✓ Over threads

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Are the stays drilled at the outer ends. No. ✓ Margin stays: Diameter At turned off part. Over threads. 2" and 1 5/8" Rpt. 13.

No. of threads per inch. 9 ✓ Tubes: Material. Steel HRWS Stay Plain ✓ External diameter. 2 1/2" ✓ Thickness. 5/16" ✓ No. of threads per inch. 9

Pitch of tubes. 3 5/8" x 3 5/8" W.P. by Rules 230lbs. Manhole compensation: Size of opening. shell plate. 21" x 17" ✓ Section of compensating ring. 7 1/4" x 1 1/8" ✓ No. of rivets and diameter of rivet holes. 44 - 1 1/4" ✓

Outer row rivet pitch at ends. 8.9/16" ✓ 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. 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 p of rivets in outer row in dome connection to shell.

Type of Superheater. Manufacturers of Tubes. Steel forgings. Steel castings. Internal diameter and thickness of tubes. Number of elements. Material of tubes. Tensile strength. Thickness. Can the superheater be shut off Material of headers. Tensile strength. Thickness. 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 press tubes. forgings and castings. and after assembly in place. Are drain cock 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, Manufacture

1953  
June. 11. 25. July. 3. 13. 17. 23. Are the approved plans of boiler and superheater forwarded herewith. Yes  
Aug. 13. 18. 21. 25. Sept. 4. 15. approved 29.8.52.  
23. Total No. of visits. 13.

Is this Boiler a duplicate of a previous case. If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boiler referred to herein has been constructed under Special Survey in accordance with the Rules of this Society and the approved Plan. The materials and workmanship are good and upon completion of build the boiler was tested by water pressure to 350lbs/sq. inch and found sound and tight. The boiler has been forwarded for installation in Messrs. J. Samuel White's Ship No. 1975 Cowes Isle of Wight. (EM3 Nigeria Survey Vessel).

This boiler has been securely fitted on board. In completion the safety valves have been adjusted with steam to 200 lbs/sq. in. and an accumulation test carried out Southampton. S.B. Rogers

Survey Fee ... £ 24 : - : - When applied for. 13.10.1953.  
Travelling Expenses (if any) £ : : When received. 19.

Engineer Surveyor to Lloyd's Register of Shipping

THURSDAY 17 JUN 1954

Committee's Minute

Assigned See Rpt. 4.