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# REPORT ON BOILERS.

No. 12121

Received at London Office 21 OCT 1924

Writing Report 1924 When handed in at Local Office 18.10.24 Port of Middlesbrough

Survey held at Stockton-on-Tees Date, First Survey 30 July Last Survey 14 October 1924

on the Steel Screw Steamer HAMSTERLEY (Number of Visits 21) (Gross Tons 55)

Built at South Bank By whom built Smith's Dock & Co Yard No. 800 When built 1924

Machinery made at South Bank By whom made Smith's Dock & Co Engine No. 269 When made 1924

Boiler made at Stockton By whom made Blair & Co Boiler No. A.192 When made 1924

Indicated Horse Power 228 Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

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

Manufacturers of Steel Messrs D. Colville & Sons Ltd (Letter for Record (5))

Heating Surface of Boilers 3947  $\phi$  Is forced draught fitted no Coal or Oil fired coal

Description of Boilers Two single ended Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 14.10.24 No. of Certificate 6402 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 51 1/2  $\phi$  No. and Description of safety valves to each boiler 2 Direct Spring

Pressure of each set of valves per boiler {per Rule 12.9 as fitted 14.12} Pressure to which they are adjusted 130 lb Are they fitted with easing gear yes

Are donkey boilers, state whether steam from main boilers can enter the donkey boiler yes

Least distance between boilers or uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers no

Least distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated no

Least internal dia. of boilers 14'-6" Length 10'-6" Shell plates: Material steel Tensile strength 28-32

Thickness 1 3/4" Are the shell plates welded or flanged no Description of riveting: circ. seams {end 2 Riveted Lap inter. -}

Seams 2 Butt - 3 Riveted Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/4"} Pitch of rivets {4" 8.75"}

Percentage of strength of circ. end seams {plate 67.25 rivets 46.6} Percentage of strength of circ. intermediate seam {plate 85.71 rivets 91.00 combined 89.62}

Working pressure of shell by Rules 180 lb

Thickness of butt straps {outer 18 1/2 x 1 1/4 inner 18 1/2 x 1 1/2} No. and Description of Furnaces in each Boiler 3 Brighton

Material steel Tensile strength 26-30 tons Smallest outside diameter 41.56"

Thickness of plain part {top 1 1/2" bottom 3/2"} Thickness of plates {crown 1 1/2" bottom 3/2"} Description of longitudinal joint Weld

Provisions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 185 lb

Plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 3/4" Pitch of stays 20" x 15 1/2"

Are stays secured nuts & 10 1/2 dia x 1" loose washers Working pressure by Rules 180 lb

Plates: Material {front steel back steel} Tensile strength {26-30 tons 26-30 "} Thickness {1 1/2" 2 1/2" 3/2"}

Pitch of stay tubes in nests 10 5/8" Pitch across wide water spaces 14 1/4" x 9" Working pressure {front 187 lb back 206 "}

Plates to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

Material steel Length as per Rule 32 1/2" Distance apart 9" No. and pitch of stays

Material steel Working pressure by Rules 194 lb Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 3/2" Back 1 1/2" Top 2 1/2" Bottom 1"

Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 194 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1 1/2" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 2 1/2"

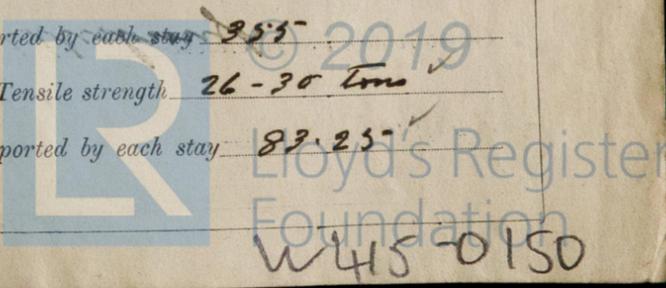
Are stays at wide water space 14 1/4" x 9" Are stays fitted with nuts or riveted over nuts

Shipping Working Pressure 238 lb Main stays: Material steel Tensile strength 28-32

At body of stay, 3" No. of threads per inch 6 Area supported by each stay 353

Over threads 3" Working pressure by Rules 263 lb Screw stays: Material steel Tensile strength 26-30 tons

At turned off part, 1 3/4" No. of threads per inch 8 Area supported by each stay 83.25



Working pressure by Rules 215 lb Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 7/8 or 1 7/8 Over threads 1 7/8 ✓  
 No. of threads per inch 8 Area supported by each stay 105.75 Working pressure by Rules 196  
 Tubes; Material iron External diameter <sup>Plain</sup> 3 1/2 <sup>Stay</sup> 3 1/2 Thickness 3/16 No. of threads per inch 9 ✓  
 Pitch of tubes 4 1/2 x 4 1/2 ✓ Working pressure by Rules 210 lb Manhole compensation: Size of opening in shell plate 16" x 12" ✓ Section of compensating ring 7 3/4 x 1 3/8 ✓ No. of rivets and diameter of rivet holes 28 @ 1 1/2" ✓  
 Outer row rivet pitch at ends 8 3/4 ✓ 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 \_\_\_\_\_ 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 \_\_\_\_\_ Manufacturers of <sup>Tubes</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 \_\_\_\_\_ Working pressure as per Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: tubes \_\_\_\_\_, 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 23 inclusive for boilers been complied with yes

The foregoing is a correct description,  
**BLAIR & Co., LIMITED** Frank J. Keacock Manufacturer.

Dates of Survey <sup>During progress of work in shops - - -</sup> 1924 Jul. 30 Aug. 1, 8, 14, 25, 24, 29, Sept 2, 5, 10, 12, 15, 18, 22, 26, 29, Oct 2, 5, 10, 13, 14 Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)  
<sup>During erection on board vessel - - -</sup> \_\_\_\_\_ Total No. of visits 21

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These boilers have been built under special survey: are of good material and workmanship and on completion were tested by hydraulic pressure with satisfactory results  
The boilers are to be fitted on board at this port  
These boilers have now been fitted on board, satisfactorily examined under steam and safety valves adjusted  
at W Oxford.

Survey Fee ... .. £ 26-6-0 When applied for, MONTHLY A/c. 192  
 Travelling Expenses (if any) £ : : When received, 192

Wm Morrison  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 JAN 1925  
 Assigned \_\_\_\_\_

