

# REPORT ON BOILERS.

No. 48776

Received at London Office

Date of writing Report 12.4 1938 When handed in at Local Office 12.4 1938 Port of HULL

No. in Survey held at Hull Date, First Survey 3rd 4 February 1938 Last Survey 6th April 1938

3551 on the Rockbreaker Ponton "JAMES ROCKBREAKER VII" (Number of Visits 21) Tons { Gross 251.00 Net 169.66

Master ✓ Built at Beverley By whom built Book, Welton & Gemmell L<sup>td</sup> Yard No. 643 When built 1938

Engines made at Hull By whom made S. J. Holmes & Co., L<sup>td</sup> Engine No. ✓ When made ✓

Boilers made at Hull By whom made S. J. Holmes & Co., L<sup>td</sup> Boiler No. 1537 When made 1938

Nominal Horse Power ✓ Owners The James Dredging, Storage & Transport Co., L<sup>td</sup> Port belonging to London

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

Manufacturers of Steel Appley-Frodingham Steel Co., L<sup>td</sup> (Letter for Record "S")

Total Heating Surface of Boilers 1075 square feet Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One Single Ended Return Tube Working Pressure 100 LBS/p

Tested by hydraulic pressure to 200 LBS/p Date of test 25.3.38 No. of Certificate 3996 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 30 sq ft No. and Description of safety valves to each boiler Two 2 3/4" dia Spring loaded

Area of each set of valves per boiler { per valve 11.69 sq ins as fitted 11.8192 sq ins Pressure to which they are adjusted 100 LBS/p Are they fitted with easing gear No

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 18" 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 11'-0" Length 10'-0" Shell plates: Material Steel Tensile strength 29.33 Tons/p

Thickness 17/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double riveted inter. ✓

Long. seams Double riveted d.b.s. Diameter of rivet holes in { circ. seams 31/32" long. seams 5/8" Pitch of rivets { 3" 4 5/8"

Percentage of strength of circ. end seams { plate 67.7 rivets 73.3 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 86.4 rivets 91.2 combined 93 Working pressure of shell by Rules 103 LBS/p

Thickness of butt straps { outer 13/32" inner 17/32" No. and Description of Furnaces in each Boiler Two Deighton Corrugated.

Material Steel Tensile strength 26.30 Tons/p Smallest outside diameter 3'-2 5/8"

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 7/16" bottom 7/16" Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 161 LBS/p

End plates in steam space: Material Steel Tensile strength 26.30 Tons/p Thickness 3/4" Pitch of stays 16 1/2" x 13 1/2" Max.

How are stays secured Double nuts & washers. Working pressure by Rules 116 LBS/p

End plates: Material { front Steel back Steel Tensile strength { 26.30 Tons/p 26.30 Tons/p Thickness { 13/16" 18/16"

Lean pitch of stay tubes in nests 10.406" Pitch across wide water spaces 14" Working pressure { front 115 LBS/p back 125 LBS/p

Orders to combustion chamber tops: Material Steel Tensile strength 29.33 Tons/p Depth and thickness of girder

Centre 6" x 3/4" double Length as per Rule 2'-4 15/32" Distance apart 10 1/2" No. and pitch of stays

each 2 at 9" pitch Working pressure by Rules 114 LBS/p Combustion chamber plates: Material Steel

Tensile strength 26.30 Tons/p Thickness: Sides 19/32" Back 19/32" Top 19/32" Bottom 19/32"

Pitch of stays to ditto: Sides 4" x 9 3/4" Back 9 3/8" x 9 3/4" Top 10 1/2" x 9" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 127 LBS/p Front plate at bottom: Material Steel Tensile strength 26.30 Tons/p

Thickness 13/16" Lower back plate: Material Steel Tensile strength 26.30 Tons/p Thickness 3/4"

Pitch of stays at wide water space 14" x 9 3/4" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 155 LBS/p Main stays: Material Steel Tensile strength 28 Tons Minimum.

Diameter { At body of stay, 2" No. of threads per inch 8 Area supported by each stay 222.75 sq ins

Working pressure by Rules 117 LBS/p Screw stays: Material Steel Tensile strength 26 Tons Minimum.

Diameter { At turned off part, 1 1/2" No. of threads per inch 10 Area supported by each stay 91.4 sq ins

Working pressure by Rules  $137 \text{ lbs/0"}$  Are the stays drilled at the outer ends *No* Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part, } 1 \frac{5}{8} \text{"} \\ \text{Over threads } 1 \frac{1}{8} \text{"} \end{array} \right.$

No. of threads per inch  $10$  Area supported by each stay  $113.95 \text{ sq. in.}$  Working pressure by Rules  $133 \text{ lbs/0"}$

Tubes: Material  $4 \frac{1}{2} \text{ Iron}$  External diameter  $\left\{ \begin{array}{l} \text{Plain } 3 \frac{1}{2} \text{"} \\ \text{Stay } 3 \frac{1}{2} \text{"} \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} 8 \text{ w.g.} \\ 5 \frac{1}{16} \text{"} \end{array} \right.$  No. of threads per inch  $9$

Pitch of tubes  $4 \frac{5}{8} \text{"} \times 4 \frac{5}{8} \text{"} \checkmark$  Working pressure by Rules  $215 \text{ lbs/0"}$  Manhole compensation: Size of opening shell plate  $16 \text{"} \times 12 \text{"} \checkmark$  Section of compensating ring  $2 \text{'-}10 \text{'-} \times 2 \text{'-}3 \text{'-} \times 1 \frac{1}{2} \text{'-} \checkmark$  No. of rivets and diameter of rivet holes  $32 \times 2 \frac{3}{32} \text{ dia.}$

Outer row rivet pitch at ends  $4 \frac{5}{8} \text{'-} \checkmark$  Depth of flange if manhole flanged  $\checkmark$  Steam Dome: Material *None*

Tensile strength  $\checkmark$  Thickness of shell  $\checkmark$  Description of longitudinal joint  $\checkmark$

Diameter of rivet holes  $\checkmark$  Pitch of rivets  $\checkmark$  Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate } \checkmark \\ \text{Rivets } \checkmark \end{array} \right.$

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

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

Type of Superheater *None* Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes } \checkmark \\ \text{Steel forgings } \checkmark \\ \text{Steel castings } \checkmark \end{array} \right.$

Number of elements  $\checkmark$  Material of tubes  $\checkmark$  Internal diameter and thickness of tubes  $\checkmark$

Material of headers  $\checkmark$  Tensile strength  $\checkmark$  Thickness  $\checkmark$  Can the superheater be shut off from the boiler  $\checkmark$

the boiler be worked separately  $\checkmark$  Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  $\checkmark$

Area of each safety valve  $\checkmark$  Are the safety valves fitted with easing gear  $\checkmark$  Working pressure as per Rules  $\checkmark$  Pressure to which the safety valves are adjusted  $\checkmark$  Hydraulic test pressure  $\checkmark$

tubes  $\checkmark$  forgings and castings  $\checkmark$  and after assembly in place  $\checkmark$  Are drain cock valves fitted to free the superheater from water where necessary  $\checkmark$

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

The foregoing is a correct description,  
FOR CHARLES D. HOLMES & CO., LTD. Manufacturer

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops - - } 1938: - \text{Feb } 3, 14, 17, 28 \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - } \text{March } 2, 3, 10, 11, 14, 15, 16, 21, 22, 23, 24 \\ 25, 28, 29, 30, \text{ April } 1, 6 \end{array} \right. \end{array} \right.$  Total No. of visits  $21$

Are the approved plans of boiler and superheater forwarded herewith *Yes*  
(If not state date of approval.)

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The boiler has been built under Special Survey & in accordance with the approved plan, the workmanship being sound & good*

*It has been satisfactorily fitted on board for auxiliary purposes together with a combined steam condensing plant consisting of condenser, circulating pump, air pump, float tank feed pump and a 5" x 3 1/2" x 6" pump for pumping the bilges & general service work*

*The above all examined under steam and found satisfactory*

*The vessel is eligible in my opinion to have record of  $\boxplus$  NB 4,38-100 lb.*

Survey Fee ... .. £  $7 : 4 : 0$  When applied for,  $12 \text{ APR } 1938$

Travelling Expenses (if any) £ : : When received,  $2/5 \text{ } 1938$   
*gmk 3/5*

*J. D. Orde*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  $\text{TUE. } 14 \text{ NOV } 1939$

Assigned  $+ \text{NB } 4, 38$

