

# REPORT ON BOILERS.

No. 48301

Received at London Office OCT 20 1937

Date of writing Report 18.10.37 When handed in at Local Office 18.10.37 Port of HULL

No. in Reg. Book 17307 Survey held at Hull Date, First Survey 25/5/37 Last Survey 12/10/37

17307 on the Steam Tug "ENGLISHMAN" (Number of Visits) Gross 486.81 Tons Net 89.14

Master Built at Selby By whom built Lochrane & Sons L<sup>td</sup> Yard No. 1184 When built 1937

Engines made at Hull By whom made S. D. Holmes & Co., L<sup>td</sup> Engine No. 1523 When made 1937

Boilers made at Hull By whom made S. D. Holmes & Co., L<sup>td</sup> Boiler No. 1523 When made 1937

Nominal Horse Power 190 Owners United Towing Co., L<sup>td</sup> Port belonging to Hull

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

Manufacturers of Steel The Steel Company of Scotland L<sup>td</sup> (Letter for Record "S")

Total Heating Surface of Boilers 2810 square feet Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers One Single Ended Return Tube Working Pressure 215 LBS/D

Tested by hydraulic pressure to 373 LBS/D Date of test 11.8.37 No. of Certificate 3981. Can each boiler be worked separately

Area of Firegrate in each Boiler 70 sq feet. No. and Description of safety valves to each boiler Two 3 1/2" dia. spring loaded.

Area of each set of valves per boiler per Rule 17.3 sq ins as fitted 9.2422 sq ins Pressure to which they are adjusted 215 LBS/D 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 9" 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 no

Largest internal dia. of boilers 16'-6" Length 11'-0" Shell plates: Material Steel Tensile strength 31.35 Tons/D

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end Double riveted

long. seams Double Riveted D.B.S. Diameter of rivet holes in circ. seams 1 1/16" Pitch of rivets 3 3/16" as fitted 1 9/16" 10 5/16"

Percentage of strength of circ. end seams plate 62.3 rivets 43.0 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 84.8 rivets 87.9 combined 87.2 Working pressure of shell by Rules 217 LBS/D

Thickness of butt straps outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler Three "Deighton" Corrugated.

Material Steel Tensile strength 26.30 Tons/D Smallest outside diameter 4'-3 1/4"

Length of plain part top bottom Thickness of plates crown 3/4" bottom 3/4" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 215 LBS/D

End plates in steam space: Material Steel Tensile strength 26.30 Tons/D Thickness 1 1/64" Pitch of stays 1'-8 3/4" x 1'-8 1/2" Max.

How are stays secured Double nuts & washers. Working pressure by Rules 218 LBS/D

Tube plates: Material front Steel back Steel Tensile strength 26.30 Tons/D Thickness 15/16" 7/8"

Mean pitch of stay tubes in nests 9.56" Pitch across wide water spaces 13 3/4" Working pressure front 216 LBS/D back 260 LBS/D

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

at centre 8 1/2" CENTRE 7/8" Double, Length as per Rule 2'-7 3/16" Distance apart 9" CENTRE 10" Wings. No. and pitch of stays

in each 3 at 7 1/2" pitch. Working pressure by Rules 231 LBS/D Combustion chamber plates: Material Steel

Tensile strength 26.30 Tons/D Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 1"

Pitch of stays to ditto: Sides 8" x 9 3/4" Back 9 1/4" x 9" Top 7 1/2" x 10" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 218 LBS/D Front plate at bottom: Material Steel Tensile strength 26.30 Tons/D

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26.30 Tons/D Thickness 7/8"

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

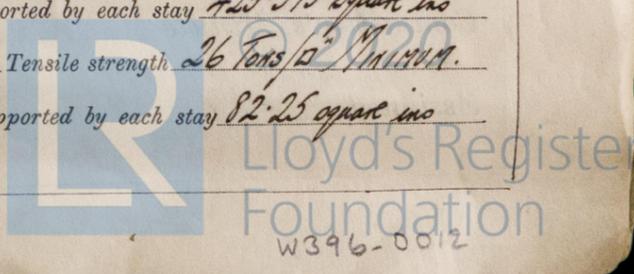
Working Pressure 251 LBS/D Main stays: Material Steel Tensile strength 28 Tons/D MINIMUM.

Diameter At body of stay, 3 1/2" No. of threads per inch 8 Area supported by each stay 425.375 square ins

Over threads 3 1/2" Working pressure by Rules 223 LBS/D Screw stays: Material Steel Tensile strength 26 Tons/D MINIMUM.

Diameter At turned off part, 1 3/4" No. of threads per inch 10 Area supported by each stay 82.25 square ins

Over threads 1 3/4"



Working pressure by Rules 220 lbs/p Are the stays drilled at the outer ends No Margin stays: Diameter <sup>At turned off part,</sup> 1 7/8", 2" & 2 1/8"  
 No. of threads per inch 10 Area supported by each stay 104 square ins Working pressure by Rules 251 lbs/p  
 Tubes: Material L. W. Iron External diameter <sup>Plain</sup> 3" Thickness <sup>8 N. 9</sup> 5/16", 3/8" & 7/16" No. of threads per inch 9  
 Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules 250 lbs/p Manhole compensation: Size of opening  
 shell plate 16" x 12" Section of compensating ring 3'0" x 2'4 1/2" x 1 1/2" thick No. of rivets and diameter of rivet holes 32 x 1 1/16" dia.  
 Outer row rivet pitch at ends 9 1/4" 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> \_\_\_\_\_  
 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 None Manufacturers of <sup>Tubes</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 22 inclusive for boilers been complied with Yes.  
 The foregoing is a correct description,  
 FOR LLOYD'S REGISTER OF SHIPPING & CO., LTD. J. H. P. [Signature] Manufacturer

Dates of Survey <sup>During progress of</sup> work in shops - - - See Mch. Rpt. Herewith Are the approved plans of boiler and superheater forwarded herewith Yes  
 while building <sup>During erection on</sup> board vessel - - - \_\_\_\_\_ Total No. of visits \_\_\_\_\_

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.) The boiler has been built under Special Survey and in accordance with the approved plan, the materials & workmanship being sound & good

Charged on engine report herewith.

Survey Fee ... .. £ : \_\_\_\_\_ When applied for, 19 \_\_\_\_\_  
 Travelling Expenses (if any) £ ✓ : \_\_\_\_\_ When received, 19 \_\_\_\_\_

J. H. P. [Signature]  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 26 OCT 1937

Assigned See other F. C. report