

REPORT ON BOILERS.

No. 16444

Received at London Office 2 JUL 1926

Date of writing Report 1st July 1926 When handed in at Local Office 1st July 1926 Port of WEST HARTLEPOOL

No. in Survey held at West Hartlepool Date, First Survey 8 Dec/25 Last Survey 24 June 1926

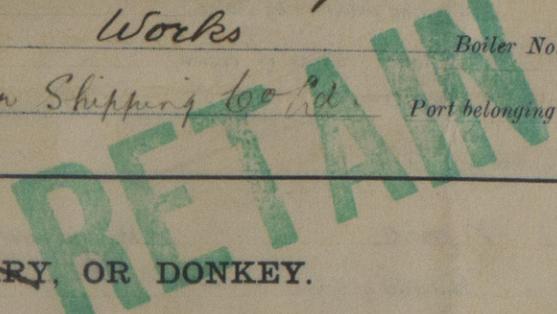
9078 on the S.S. "FIRBY" (Number of Visits 79) Tons {Gross 4867.75 Net 2998.91

Master Built at West Hartlepool By whom built Wm Gray & Co. Yard No. 979 When built 1926

Engines made at West Hartlepool By whom made Central Marine Engine Engine No. 979 When made 1926

Boilers made at ditto By whom made Works Boiler No. 979 When made 1926

Minimal Horse Power Owners Popner Shipping Co Ltd Port belonging to West Hartlepool



ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 927 sq. ft. Is forced draught fitted no Coal or Oil fired Coal

and Description of Boilers One single ended Working Pressure 150 lbs

Tested by hydraulic pressure to 275 Date of test 22.3.26 No. of Certificate 3681 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 34.2 No. and Description of safety valves to each boiler 2 direct spring

Area of each set of valves per boiler {per Rule 7.02 as fitted 16.5 Pressure to which they are adjusted 150 Are they fitted with easing gear yes

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Is oil fuel carried in the double bottom under boilers no

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

Smallest internal dia. of boilers 10'-6" Length 10'-0" Shell plates: Material Steel Tensile strength 28/32

Thickness 3/4 Are the shell plates welded or flanged no Description of riveting: circ. seams {end 2 R 4ap inter. 3 1/2

seams J.R. & B.S. Diameter of rivet holes in {circ. seams 15/16 long. seams 13/16 Pitch of rivets {3 1/2 6 5/8

Percentage of strength of circ. end seams {plate 75.9 rivets 32.55 Percentage of strength of circ. intermediate seam {plate 86.75 rivets 87.1

Percentage of strength of longitudinal joint {plate 86.75 rivets 87.1 combined 89. Working pressure of shell by Rules 154 lbs

Thickness of butt straps {outer 2/16 inner 11/16 No. and Description of Furnaces in each Boiler 2 plain

Material Steel Tensile strength 26/30 Smallest outside diameter 38 5/8

Thickness of plain part {top 5-11 3/8 bottom 5-5 3/8 Thickness of plates {crown 21/32 bottom 32 Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 157

Plates in steam space: Material Steel Tensile strength 26/30 Thickness 27/32 Pitch of stays 16 1/2 x 7 1/2

Are stays secured D Nuts & washers Working pressure by Rules 150 lbs

Plates: Material {front steel back steel Tensile strength {26/30 Thickness {27/32 3/4

Pitch of stay tubes in nests 13 1/2 x 9 Pitch across wide water spaces 14 1/4 Working pressure {front 171 back 158

Plates to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder

Area 7 3/8 x 1 1/4 Length as per Rule 27 1/2 Distance apart 10 1/2 No. and pitch of stays

Quantity 2 - 9 1/4 Working pressure by Rules 153 Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 21/32 Back 23/32 Top 21/32 Bottom 1

Dimensions of stays to ditto: Sides 9 1/2 x 10 1/2 Back 10 1/2 x 11 1/4 Top 9 1/2 x 10 1/2 Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 153 Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 27/32 Lower back plate: Material steel Tensile strength 26/30 Thickness 27/32

Dimensions of stays at wide water space 14 1/4 x 11 1/4 Are stays fitted with nuts or riveted over nuts

Working Pressure 176 Main stays: Material Steel Tensile strength 28/32

At body of stay, 2 3/8 No. of threads per inch 6 Area supported by each stay 18 1/4 x 12 3/4

Over threads pressure by Rules 168 Screw stays: Material Steel Tensile strength 26/30

At turned off part, 1 5/8 x 1 3/4 No. of threads per inch 9 Area supported by each stay 9 1/2 x 10 1/2 + 10 1/2 x 11 1/4

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Working pressure by Rules 153 Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part} \checkmark \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{7}{8} \checkmark$

No. of threads per inch 9 Area supported by each stay $11\frac{1}{4} \times 12\frac{5}{8}$ Working pressure by Rules 150

Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain} \ 3\frac{3}{4} \checkmark \\ \text{Stay} \ 3\frac{1}{4} \checkmark \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{PWG} \checkmark \\ \frac{1}{4} \times \frac{3}{16} \checkmark \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $4\frac{1}{2} \times 4\frac{1}{2}$ Working pressure by Rules 187 Manhole compensation: Size of shell plate 16×20 Section of compensating ring $19\frac{1}{2} \times 15$ No. of rivets and diameter of rivet holes 32 $\frac{1}{32}$

Outer row rivet pitch at ends $6\frac{5}{8}$ 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and _____

stays _____ Inner radius of crown _____ Working pressure by Rules _____

How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes _____

of rivets in outer row in dome connection to shell _____

Type of Superheater none Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____

Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be _____

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 _____

Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test _____

tubes _____, castings _____ and after assembly in place _____ Are drain cocks or _____

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 CENTRAL MARINE ENGINE WORKS
(L. Gray & Co. Ltd.)
The foregoing is a correct description
J. H. Gearing
DIRECTOR

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. \text{---}$

while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. \text{---}$

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

Total No. of visits 1

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

See accompanying machinery report

Survey Fee £	<u>See Report on Machinery</u>	When applied for, ✓	192
Travelling Expenses (if any) £		When received, ✓	192

R. D. Shilston.
Engineer Surveyor to Lloyd's Register of

Committee's Minute FRI. 9 JUL 1926

Assigned See S.E. rpt. attached

