

# REPORT ON BOILERS.

No. 13218.

Received at London Office 25 FEB 1928

of writing Report

24. 2. 1928

When handed in at Local Office

24. 2. 1928

Port of MIDDLESBROUGH.

in Survey held at

STOCKTON.

Date, First Survey 20-1-28.

Last Survey

24. 2. 1928.

on the

Boiler for "Merrill" Charlton & Co. Ltd.

S.S. Totnes

(Number of Visits 5.)

Gross Tons  
Net

er

Built at

By whom built

Yard No.

When built

nes made at

By whom made

Engine No.

When made

er made at

Stockton

By whom made

Riley Bros. (Boilermakers) Ltd.

Boiler No.

5810

When made

1928.

inal Horse Power

Owners

Port belonging to

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

Manufacturers of Steel

David Colville & Sons Ltd.

(Letter for Record

S.

Heating Surface of Boilers

420 sq. ft.

Is forced draught fitted

no

Coal or Oil fired

Coal

and Description of Boilers

One S.B.

Working Pressure

200 lbs.

ed by hydraulic pressure to

350 lbs.

Date of test 24. 2. 28

No. of Certificate

6617

Can each boiler be worked separately

of Firegrate in each Boiler

27.3 sq. ft.

No. and Description of safety valves to each boiler

of each set of valves per boiler

per Rule

Pressure to which they are adjusted

Are they fitted with easing gear

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

test distance between boilers or uptakes and bunkers or woodwork

1'-6"

Is oil fuel carried in the double bottom under boilers

test distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

st internal dia. of boilers

10'-0"

Length

9'-3"

Shell plates: Material

Steel

Tensile strength

29/33

ss

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

end D.R.

seams

T.R.D.B.S.V.

Diameter of rivet holes in

circ. seams

1 1/4"

Pitch of rivets

3 1/2" x 7 1/4"

ntage of strength of circ. end seams

plate

66.5

rivets

44.5

Percentage of strength of circ. intermediate seam

plate

83.9

ntage of strength of longitudinal joint

plate

88.1

rivets

89.9

Working pressure of shell by Rules

200 lbs.

ness of butt straps

outer

19"

inner

23"

No. and Description of Furnaces in each Boiler

2 Plain

ial

Steel

Tensile strength

26/30

Smallest outside diameter

3'-2"

of plain part

top

5'-7 1/4"

bottom

6'-2"

Thickness of plates

crowd

3/4"

Description of longitudinal joint

weld

visions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

200 lbs.

plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

7/8" x 13/16"

Pitch of stays 14" x 12 3/4"

are stays secured

D.N.W.

Working pressure by Rules

202 lbs.

plates: Material

front

Steel

Tensile strength

26/30

Thickness

7/8" x 3/4"

pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front 226 lbs.

back 235 "

rs to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

tre. 6 3/4" x 5/8" (double)

Length as per Rule

2'-2"

Distance apart

7"

No. and pitch of stays

h 2 - 7 1/2"

Working pressure by Rules

200 lbs.

Combustion chamber plates: Material

Steel

e strength

26/30

Thickness: Sides

5/8"

Back

2 1/2"

Top

7/8"

Bottom

1"

of stays to ditto: Sides

8 3/4" x 7 1/2"

Back

9" x 8"

Top

7" x 7 1/2"

Are stays fitted with nuts or riveted over

nuts

ng pressure by Rules

204 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

ess

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

13/16"

of stays at wide water space

13 1/2" x 9"

Are stays fitted with nuts or riveted over

nuts

ng Pressure

204 lbs.

Main stays: Material

Steel

Tensile strength

28/32

er { At body of stay,

or

2 3/8"

No. of threads per inch

6.

Area supported by each stay

178

ng pressure by Rules

220 lbs.

Screw stays: Material

Steel

Tensile strength

26/30

er { At turned off part,

or

1 5/8"

No. of threads per inch

9

Area supported by each stay

72

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Working pressure by Rules 211 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 1 1/8" or Over threads 1 1/8" ✓  
No. of threads per inch 9. Area supported by each stay 96 sq Working pressure by Rules 220 lbs.  
Tubes: Material iron ✓ External diameter { Plain 3 1/2 6 3 1/2 ✓ Stay 3 1/2 6 3 1/2 ✓ Thickness { 8 w.g. ✓ 9/16 ✓ No. of threads per inch 9. ✓  
Pitch of tubes 4 1/2" x 4 3/4" ✓ Working pressure by Rules p. 215. s. 375 lbs. Manhole compensation: Size of opening in shell plate 20" x 16" ✓ Section of compensating ring 8" x 1" ✓ No. of rivets and diameter of rivet holes 48 - 1 1/16" ✓  
Outer row rivet pitch at ends 7" ✓ Depth of flange if manhole flanged 3" ✓ Steam Dome: Material \_\_\_\_\_  
Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint { Plate \_\_\_\_\_ Rivets \_\_\_\_\_  
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 { Tubes \_\_\_\_\_ Steel castings \_\_\_\_\_  
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 \_\_\_\_\_ 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,  
FOR RILEY BROS. (BOILERMAKERS) LTD. Manufacturer.

Dates { During progress of 1928 Jan. 20-26-30 Feb. 21-24 Are the approved plans of boiler and superheater forwarded herewith Yes. ✓  
of Survey { work in shops - - -  
while { During erection on board vessel - - -  
building {  
Total No. of visits 5.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good.

This boiler has been built under special survey in accordance with the Rules and Approved Plan. It is being sent to Grimsby

Survey Fee ... .. £ 4-16-0. } When applied for, 192  
Travelling Expenses (if any) £ : : } When received, 192

MONTHLY A/c

M. J. Man.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 3 APR 1928

Assigned

See Gms up to 15760



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Foundation