

REPORT ON BOILERS.

No. 82224

9 JAN 1928

Received at London Office

Date of writing Report

192

When handed in at Local Office

7.1.1928

Port of

NEWCASTLE-ON-TYNE

No. in
Reg. Book.

Survey held at SOUTH SHIELDS

Date, First Survey

27 April

Last Survey

27 Jan 1928

on the

S.S. "KIRNWOOD"

(Number of Visits

Tons

Gross

3741

Net

2272

Master

Built at South Shields

By whom built John Readhead & Sons Ltd

Yard No. 487

When built 1928-1

Engines made at

South Shields

By whom made John Readhead & Sons Ltd

Engine No. 487

When made 1928

Boilers made at

South Shields

By whom made John Readhead & Sons Ltd.

Boiler No. 487

When made 1928

Nominal Horse Power

334

Owners Joseph Constantine Steamship Line Ltd. Port belonging to MIDDLESBROUGH.

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Lim.

(Letter for Record R)

Total Heating Surface of Boilers

1212.9 Sq. Ft.

Is forced draught fitted

no

Coal or Oil fired

Coal

No. and Description of Boilers

one Single-Ended.

Working Pressure 120 lbs.

Tested by hydraulic pressure to

230 lbs.

Date of test

13/9/27

No. of Certificate

203

Can each boiler be worked separately

-

Area of Firegrate in each Boiler

37.4 sq.

No. and Description of safety valves to each boiler

pair

Spring-loaded

Area of each set of valves per boiler

per Rule

11.25 sq.

Pressure to which they are adjusted

120 lbs

Are they fitted with easing gear

yes

In case 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

1'9"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'3"

Is the bottom of the boiler insulated

no

Largest internal dia. of boilers

11'4 5/8"

Length

10'6"

Shell plates: Material

Steel

Tensile strength 28/32 Tons

Thickness

1/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end Double-riveted

long. seams

D.R. D.B.S.

Diameter of rivet holes in

circ. seams

7/8"

Pitch of rivets

3"

Percentage of strength of circ. end seams

plate 70.7

rivets 47.8

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 81.5

rivets 85.7

Working pressure of shell by Rules

121.5 lbs

Thickness of butt straps

outer 9/16"

inner 1/16"

No. and Description of Furnaces in each Boiler

Two plain

Material

Steel

Tensile strength 26/30 Tons

Smallest outside diameter

3'6 1/2"

Length of plain part

top 6'8 25/32"

bottom 7'3"

Thickness of plates

crown 21"

bottom 32"

Description of longitudinal joint

Weld

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

none fitted

Working pressure of furnace by Rules

121.7 lbs

End plates in steam space: Material

Steel

Tensile strength 26/30 Tons

Thickness

15/16"

Pitch of stays 18"x22 1/4"

How are stays secured Double nuts, Loose washers 9 3/4 dia x 5 1/8"

Working pressure by Rules

130.5 lbs

Tube plates: Material

front Steel

back steel

Tensile strength

26/30 Tons

Thickness

3/4" x 9/16" Doubling plate

Mean pitch of stay tubes in nests

9 5/8"

Pitch across wide water spaces

14"

Working pressure

front 133 lbs

back 148 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength 28/32 Tons

Depth and thickness of girder

at centre

6"x15/8"

Length as per Rule

26"

Distance apart

11 1/2"

No. and pitch of stays

in each

Two - 8"

Working pressure by Rules

129 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30 Tons

Thickness: Sides

19/32"

Back

19/32"

Top

19/32"

Bottom

13/16"

Pitch of stays to ditto: Sides

10"x9"

Back

10 1/4"x9"

Top

11 1/2"x8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

124 lbs

Front plate at bottom: Material

Steel

Tensile strength 26/30 Tons

Thickness

3/4"

Lower back plate: Material

Steel

Tensile strength 26/30 Tons

Thickness

21/32"

Pitch of stays at wide water space

14"x9"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

124 lbs

Main stays: Material

Steel

Tensile strength 28/32 Tons

Diameter

At body of stay,

2 3/4"

Over threads

No. of threads per inch

Six

Area supported by each stay

400.50"

Working pressure by Rules

138 lbs

Screw stays: Material

Iron

Tensile strength

2 1/2 Tons

Diameter

At turned off part,

1 1/2"

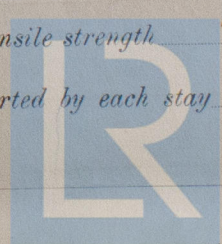
Over threads

No. of threads per inch

nine

Area supported by each stay

92.250"

Lloyd's Register
Foundation

Working pressure by Rules 136 lbs Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1 3/4" ✓
 { Over threads 1 3/4" ✓
 No. of threads per inch nine ✓ Area supported by each stay 108 sq Working pressure by Rules 168 lbs.
 Tubes: Material Iron ✓ External diameter { Plain 3 1/4" ✓ Thickness { 10 W.G. No. of threads per inch nine ✓
 { Stay 3 1/4" ✓ { 5/16" x 3/8" ✓
 Pitch of tubes 4 5/8" x 4 1/2" ✓ Working pressure by Rules plain 130 lbs - Stay 223 lbs Manhole compensation: Size of opening in
 shell plate 20" x 16" ✓ Section of compensating ring 34" x 30" x 1/16" ✓ No. of rivets and diameter of rivet holes 44 - 7/8" ✓
 Outer row rivet pitch at ends 4 23/32" ✓ Depth of flange if manhole flanged 3 1/4" ✓ Steam Dome: Material None fitted ✓
 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 None fitted 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 — 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, W. P. Morrison
 for **JOHN READHEAD & SONS, LIMITED.** Manufacturer. W. P. Morrison

Dates of Survey { During progress of work in shops - - }
 { While building { During erection on board vessel - - }
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 Total No. of visits

See Mch. Report

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler has been constructed under the usual conditions of survey and testing and found satisfactory. It has been securely fixed in the vessel and its safety valves have been adjusted under steam.

Survey Fee ... Entry on Machinery £ — : — :
 Travelling Expenses (if any) £ — : — :
 When applied for, 192
 When received, 192

W. P. Morrison
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 13 JAN 1928

Assigned See Supt. attached