

Rpt. 5a.

REPORT ON BOILERS.

No. 29302

Date of writing Report

192

When handed in at Local Office

14th Aug 1926

Received at London Office

10 AUG 1926

No. in Surrey held at
Reg. Book.

Sunderland

Date, First Survey

Port of Sunderland.

Last Survey

13th Aug. 1926.

on the

S.S. "MERNOD"

(Number of Visits)

Tons

Gross 2230.

Net 1250.

Master

Built at

Newcastle

By whom built

Swan Hunter & Co. Ltd.

Yard No. 1220

When built 1925

Engines made at

Sunderland

By whom made

G. Hark Ltd.

Engine No. 1146

When made 1926.

Boilers made at

Sunderland.

By whom made

G. Hark Ltd.

Boiler No. 1145

When made 1926.

Nominal Horse Power

251.

Owners

Melbourne Steamship Co. Ltd.

Port belonging to

Melbourne.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Son.

Total Heating Surface of Boilers

4188.

Is forced draught fitted

(Letter for Record S. ✓)

No. and Description of Boilers

Two 2 ft. 6 in. 18 B.

Coal or Oil fired Coal. ✓

Tested by hydraulic pressure to

320

Date of test

17/6/26

No. of Certificate

3936

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

65 sq. ft.

No. and Description of safety valves to each boiler

Two spring loaded.

Area of each set of valves per boiler

per Rule 13.7 sq. in.

Pressure to which they are adjusted

185 lb. sq. in.

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

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

15'-0"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

28 to 32 tons.

Thickness

1 1/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.L. ✓

long. seams

T.R. D.B.S. ✓

Diameter of rivet holes in

circ. seams

1 3/16" & 1 1/2"

Pitch of rivets

3 7/8" & 5 1/2"

Percentage of strength of circ. end seams

plate 65.5

rivets 42.5

Percentage of strength of circ. intermediate seam

plate 84.82

rivets 91.8

Percentage of strength of longitudinal joint

plate 84.82

rivets 91.8

combined 88.02.

Working pressure of shell by Rules 182

Thickness of butt straps

outer 1"

inner 1 1/2"

No. and Description of Furnaces in each Boiler

Three Fujitons. 3 Cf.

Material

Steel

Tensile strength

26 to 30 tons.

Smallest outside diameter

3'-10 1/2"

Length of plain part

top —

bottom —

Thickness of plates

crown 3 3/4"

bottom 3 3/4"

Description of longitudinal joint

Welded. ✓

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

Working pressure of furnace by Rules 182 lb. sq. in.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons.

Thickness

1 3/8"

Pitch of stays 20" x 23"

How are stays secured

DIN & W.

Working pressure by Rules 192 lb. sq. in.

Tube plates: Material

front STEEL ✓

back STEEL.

Tensile strength

26 to 30 tons.

Thickness

4 1/8"

3 1/4"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

14 1/2" x 8 3/4"

Working pressure

front 226 lbs. sq. in.

back 192.

Girders to combustion chamber tops: Material

STEEL

Tensile strength

28 to 32 tons.

Depth and thickness of girder

at centre

8" x 1 3/4"

Length as per Rule

2'-6 1/2"

Distance apart

10 1/2"

No. and pitch of stays

in each

22 9 1/2"

Working pressure by Rules

206 lb. sq. in.

Combustion chamber plates: Material STEEL.

Tensile strength

26 to 30 tons.

Thickness: Sides

23"

Back

4 1/8"

Top

23"

Bottom

23"

Pitch of stays to ditto: Sides

10" x 9 1/2"

Back

10 1/2" x 9 1/2"

Top

10 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

Nuts ✓

Working pressure by Rules

Back 183

Front plate at bottom: Material

STEEL

Tensile strength

26 to 30 tons.

Thickness

1 3/8"

Lower back plate: Material

STEEL

Tensile strength

26 to 30 tons.

Thickness

3 1/2"

Pitch of stays at wide water space

16" x 9 1/2"

Are stays fitted with nuts or riveted over

Nuts ✓

Working Pressure

226 lbs. sq. in.

Main stays: Material

STEEL

Tensile strength

28 to 32 tons.

Diameter

At body of stay, 3 1/2"

Over threads 3"

No. of threads per inch

6 ✓

Area supported by each stay

460 sq. in.

Working pressure by Rules

185 lbs. sq. in.

Screw stays: Material

STEEL

Tensile strength

26 to 30 tons.

Diameter

At turned off part, 1 3/4"

Over threads 1 3/4"

No. of threads per inch

9 ✓

Area supported by each stay

95 sq. in.

Working pressure by Rules 191 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part. 1 1/8 Over threads 1 1/8 ✓
 No. of threads per inch 9 Area supported by each stay 12 x 9 5/8 Working pressure by Rules 184 lbs.
 Tubes: Material Iron External diameter { Plain 3 1/2 Stay 3 1/2 Thickness { 8 SWG. No. of threads per inch 9 ✓
 Pitch of tubes 4 1/2 x 4 3/8 Working pressure by Rules 230 lbs. Manhole compensation: Size of opening in
 shell plate 16 x 12 Section of compensating ring - No. of rivets and diameter of rivet holes -
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 ✓ 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 ✓ 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,
GEORGE CLARK LIMITED 1088 WILKIE Manufacturer.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers have been built under special survey & the workmanship & materials are good in completion they were tested by hydraulic pressure to 320 lbs. & found sound & tight. The boilers were afterwards satisfactorily fitted in the vessel. For recommendation for class see Machinery Report

Survey Fee ... £ Shanghai When applied for, 192
 Travelling Expenses (if any) £ Machinery Report When received, 192

G. G. G. G.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 14 SEP 1926

Assigned See PWC H.E. to 80611



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