

Rpt. 5a.

REPORT ON BOILERS.

No. 6054

9 DEC 1926

Date of writing Report Nov. 1st 1926

Received at London Office

When handed in at Local Office Nov. 2nd 1926

Port of Hongkong

No. in Reg. Book.

Survey held at

Hongkong

Date, First Survey July 7thLast Survey Oct. 30th 1926

on the Steel Single Screw Tug CHANGNAM

(Number of Visits 19)

Gross 127.44 Tons
Net 6.93

Master

Built at Hongkong

By whom built H.K. Whampoa Dock Co.

When built 1926

Engines made at

Hongkong

By whom made H.K. Whampoa Dock Co. Ltd

Engine No. 377

When made 1926

Boilers made at

Hongkong

By whom made H.K. Whampoa Dock Co. Ltd

Boiler No. 709

When made 1926

Nominal Horse Power

70

Owners Menam River Towing & Lighter Co.

Port belonging to Bangkok

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Leeds Forge Co. Ltd. & The Steel Co. of Scotland

Total Heating Surface of Boilers

1346.4

(Letter for Record

15)

No. and Description of Boilers

one - S. E. Multitubular

ISB

Is forced draught fitted

No

Coal or Oil fired

Coal

Tested by hydraulic pressure to

335 lbs

Date of test 18/10/26

No. of Certificate

161

Can each boiler be worked separately

Area of Firegrate in each Boiler

38.5

No. and Description of safety valves to each boiler

2 - 2 1/2" Spring loaded

Area of each set of valves per boiler

per Rule 8.08

as fitted 9.8

Pressure to which they are adjusted

190 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 donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

6"

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

No

Largest internal dia. of boilers

12' - 0"

Length

10' - 2"

Shell plates: Material

Steel

Tensile strength

31.4 Tons

Thickness

1 1/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

and Double lap

Long. seams T. R. Double butt strap

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

2.998"

Percentage of strength of circ. end seams

plate 64%

rivets 45%

Percentage of strength of circ. intermediate seam

plate 85.82%

Percentage of strength of longitudinal joint

plate 85.61%

rivets 89%

Working pressure of shell by Rules

193 lbs

Thickness of butt straps

outer 13"

inner 15 1/16"

No. and Description of Furnaces in each Boiler

Two - Morrison

Material

Steel

Tensile strength

27.9 Tons

Smallest outside diameter

43 3/16"

Length of plain part

top

bottom

Thickness of plates

crown 19"

bottom 37"

Description of longitudinal joint

Welded

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

None

Working pressure of furnace by Rules

200 lbs

End plates in steam space: Material

Steel

Tensile strength

27.7 Tons

Thickness

1 1/16"

Pitch of stays

16 1/4 x 17 1/4

How are stays secured

Nuts inside & outside

Working pressure by Rules

193 lbs

End plates: Material

front Steel

back Steel

Tensile strength

28.7 Tons

Thickness

7/8"

Can pitch of stay tubes in nests

8 1/2" x 12 3/8"

Pitch across wide water spaces

13 1/2"

Working pressure

front W.W. Space 190 lbs

Orders to combustion chamber tops: Material

Steel

Tensile strength

28.4 Tons

Distance apart

9 1/4"

Centre

9 1/8" x 1 1/8"

Length as per Rule

28 19/32"

Each

3 @ 7 1/4"

Working pressure by Rules

196 lbs

Tensile strength

28.2 Tons

Thickness: Sides

3/4"

Back

5/8"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

7 1/4" x 9"

Back

7 1/2" x 8 3/4"

Top

7 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

196 lbs

Front plate at bottom: Material

Steel

Tensile strength

28.7 Tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

28.2 Tons

Thickness

27/32"

Pitch of stays at wide water space

13 1/2" x 8 3/4"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

191 lbs

Main stays: Material

Steel

Tensile strength

29.5 Tons

At body of stay, or over threads

2 5/8"

No. of threads per inch

6

Area supported by each stay

28.2

Working pressure by Rules

210 lbs

Screw stays: Material

Steel

Tensile strength

28 Tons

At turned off part, or over threads

1 1/2" x 1 5/8"

No. of threads per inch

9

Area supported by each stay

65.5

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Tug Changnam
6054

Working pressure by Rules 193 lbs. Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, ✓
Over threads 1 3/4" ✓
No. of threads per inch 9 ✓ Area supported by each stay 92 ✓ Working pressure by Rules 197 lbs.
Tubes: Material Iron ✓ External diameter { Pin 3" ✓ Thickness 9 L.S.G. ✓
Stay 3" ✓ 5/16" + 3/8" ✓ No. of threads per inch 9 ✓
Pitch of tubes 4 1/4" x 4 1/8" ✓ Working pressure by Rules 190 lbs. Manhole compensation: Size of opening in
shell plate 20 1/2" x 16 1/2" ✓ Section of compensating ring 22" x 1 5/32" ✓ No. of rivets and diameter of rivet holes 38 @ 1 3/8" dia.
Outer row rivet pitch at ends 9 1/16" ✓ Depth of flange if manhole flanged Top 3 5/8" Bottom 3 3/8" ✓ 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 { 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 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,

R.M. Dyer

Manufacturer.

1926
Dates of Survey { During progress of work in shops - July 7, 21, Aug. 7, 12, 17, 24, 31, Are the approved plans of boiler and superheater forwarded herewith 13/7/26
while building { During erection on board vessel - Sept. 6, 13, 16, 20, 24, Oct. 6, 18, (If not state date of approval.)
Total No. of visits 19
Hobs

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials have been tested by the Surveyors to this Society & boiler has been constructed as shown and amended on the approved plan, copy of which is in the London Office, except that combustion chamber side & top plate thicknesses have been increased from 5/8" to 3/4" & back tube plates from 25/32" to 7/8". A copy of plan showing the boiler as constructed is enclosed herewith.

The workmanship is good & the boiler has been satisfactorily tested by hydraulic pressure in accordance with the Rules, and stamped:-

No 161 Htg
LLOYD'S TEST
335 lbs.
W.P. 190 lbs.
T.S.M. 18/10/26

In conjunction with the machinery, it is recommended that the vessel be classed with Lloyd's Machinery Certificate and the record of + L.M.C. 10-1926 be made in the Register Book.

Survey Fee See Machinery Report When applied for, ✓ 192
Traveling Expenses (if any) £ : ✓ : When received, ✓ 192

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

Committee's Minute FRI. 10 DEC 1926

Assigned

+ L.M.C. 10.26 CL

FRI. 31 DEC 1926

CERTIFICATE WRITTEN.



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