

# REPORT ON MACHINERY.

No. 67.408

Port of London.

Received at London Office

MON. 5 JUN 1905

No. in Survey held at London.

Date, first Survey Dec 13/1904

Last Survey May 25 1905

Reg. Book.

(Number of Visits 35)

85 on the Yugie No. 772 for the S. Morris

Gross 125.70

Net 122.70

57.51

Master

Built at London

By whom built

Thames Iron Works & Co

When built

Engines made at

London

By whom made

The Thames Iron Works & Co

When made

1905

Boilers made at

London

By whom made

do:

when made

1905

Registered Horse Power

Owners

London County Council

Port belonging to

London

Nom. Horse Power as per Section 28

53

Is Refrigerating Machinery fitted

no

Is Electric Light fitted

yes

## ENGINES, &c.—Description of Engines

Diagonal Compound

No. of Cylinders

2

No. of Cranks

2

Dia. of Cylinders

16 + 31

Length of Stroke

36

Revs. per minute

as per rule

app'd

Material of shaft

5

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made water tight

in the propeller boss If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush

Dia. of Tunnel shaft

as per rule

app'd

Dia. of Crank shaft journals

as per rule

app'd

Dia. of Crank pin

6 3/4

collars

wheel-axis

Dia. of screw

Pitch of screw

8-9

No. of blades

8

State whether moveable

feathering

Total surface

No. of Feed pumps

one

Diameter of ditto

3 1/2

Stroke

10'

Can one be overhauled while the other is at work

No. of Bilge pumps

one

Diameter of ditto

3 1/2

Stroke

10'

Can one be overhauled while the other is at work

No. of Donkey Engines

one

Sizes of Pumps

4 1/4 x 3 1/4 w x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

one 2' engine + 2' donkey

In Holds, &c.

2' forward + 2' aft

No. of bilge injections

one

sizes

3"

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room & size

yes-2

Are all the bilge suction pipes fitted with roses

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

—

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the discharge pipes above or below the deep water line

above

Are they each fitted with a discharge valve always accessible on the plating of the vessel

yes

Are the blow off cocks fitted with a spigot and brass covering plate

yes

What pipes are carried through the bunkers

none

How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

## BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers

7000

Is forced draft fitted

yes

No. and Description of Boilers

one S.E. return tube

Working Pressure

115

Tested by hydraulic pressure to

230

Date of test

27-2-05

Can each boiler be worked separately

yes

Area of fire grate in each boiler

250

each boiler

2 direct sprung

Area of each valve

7.07

Pressure to which they are adjusted

115

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

9-0

Length

8-9

Material of shell plates

S

Thickness

9/16

Range of tensile strength

29-32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

single

long. seams

treble butt

Diameter of rivet holes in long. seams

3/4

Pitch of rivets

4 3/32

Lap of plates or width of butt straps

12"

Per centages of strength of longitudinal joint

83.7

Working pressure of shell by rules

119

Size of manhole in shell

16 x 12

Size of compensating ring

12" x 12" ring

No. and Description of Furnaces in each boiler

2 plain

Material

S

Outside diameter

34 7/8

Length of plain part

70

Thickness of plates

9/16

Description of longitudinal joint

welded

No. of strengthening rings

none

Working pressure of furnace by the rules

142

Combustion chamber plates: Material

S

Thickness: Sides

1/2

Back

1/2

Top

9/16

Bottom

1/2

Pitch of stays to ditto: Sides

8 1/4 x 7 3/4

Back

8 3/8 x 7 7/8

Top

9 1/4 x 8 1/4

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

120

Material of stays

S

Diameter at smallest part

.93

Area supported by each stay

64

Working pressure by rules

116

End plates in steam space:

S

Material

S

Thickness

1/16

Pitch of stays

17 1/2 x 12 1/2

How are stays secured

nut washers

Working pressure by rules

115

Material of stays

S

Diameter at smallest part

2.87

Area supported by each stay

218

Working pressure by rules

133

Material of Front plates at bottom

S

Thickness

1/16

Material of Lower back plate

S

Thickness

1/16

Greatest pitch of stays

11 3/4

Working pressure of plate by rules

115

Diameter of tubes

2 1/2

Pitch of tubes

3 1/2

Material of tube plates

S

Thickness: Front

1/16

Back

1/16

Mean pitch of stays

11.4

Pitch across wide water spaces

12 1/2

Working pressures by rules

116

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

6 1/2 x 7 1/8 - 2

Length as per rule

25

Distance apart

9 1/4

Number and pitch of Stays in each

2 - 8 1/4

Working pressure by rules

135

**DONKEY BOILER**— No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can  
 enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile  
 strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
 Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of  
 joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,  
 Manufacturer. *Alvarado* Manager.  
 For THE THAMES IRONWORKS, SHIP-BUILDING AND ENGINEERING COMPANY, LIMITED.

Dates of Survey while building  
 During progress of work in shops - 1904 Dec 13, 16, 30 1905 Jan 10, 11, 18, 25, 26, 31 Feb 6, 8, 13, 14, 17, 18, 20, 23, 27, 29  
 During erection on board vessel - 15, 16, 17, 23, 29, April 7, 9, 11, 20, 29 May 3, 4, 6, 9, 17, 21, 25  
 Total No. of \_\_\_\_\_ Is the approved plan of main boiler forwarded herewith already forwarded  
 " " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 The engines and boiler have been built under special survey. The material has been tested in accordance with the rule requirements. The main steam pipes have been tested by water to 290 lbs, and the boiler to 230 lbs, and they were found tight and sound at these pressures respectively. The safety valves have been adjusted under steam and the engines seen working. The workmanship throughout is good. This vessel's machinery is eligible in my opinion for record of + LMC 5.05.

Boiler stamped:  
 No 772  
 604  
 LLOYD'S TEST  
 230 LBS  
 27.2.05  
 C.M.

It is submitted that this vessel is eligible for THE RECORD LMC 5.05. F.D. ELEC. LIC. J. M. Pms 5.6.05.

The amount of Entry Fee... £ 1 : 0 : 0 When applied for, 31/5/05.  
 Special ... £ 8 : 0 : 0  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : : When received, 26.19.05

*C. Martell*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 6 JUN 1905  
 Assigned + LMC 5.05

MACHINERY CERTIFICATE WRITTEN.

These pa  
 Signal Lett  
 Official N  
 120, 5  
 No., Date, and  
 Whether British Foreign Buil  
 British  
 Number of De  
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 Forecastle  
 Round House  
 Other closed  
 Spaces for mach  
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 Gross  
 Deductions, as  
 Regist  
 Name o  
 No. of Owners  
 Name, Residen  
 Lon  
 Nea  
 Nea  
 Dated 26



Builder

Certificate (if required) to be sent to  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)