

# REPORT ON MACHINERY.

No. 758

No. in Survey held at

Reg. Book.

on the

Hong Kong  
Yug boat "Tarnu"

Date, first Survey

4<sup>th</sup> Aug 1888

Received at London Office

1647

Last Survey

18 April 1888

(Number of Visits)

Tons

226 Gross  
140 Net

Master

Built at

Kowloon

By whom built

Hong Kong Whampoa Dock

When built

1855

Engines made at

Kowloon

By whom made

H. R. & W. Steel & Co. Limited

when made

1855

Boilers made at

Kowloon

By whom made

do

do

when made

do

Registered Horse Power

74 nom.

Owners

H. R. & W. Steel & Co. Ltd

Port belonging to

Hong Kong

## ENGINES, &c.—

Description of Engines Twin screw Compound Surface Condensing

Diameter of Cylinders 15" & 30" Length of Stroke 18" No. of Rev. per minute 35 Point of Cut off, High Pressure 6 Low Pressure 6.5

Diameter of Screw shaft 5 1/2" Diam. of Tunnel shaft 5 1/2" Diam. of Crank shaft journals 5 1/2" Diam. of Crank pin 6" size of Crank webs 7 x 2 1/2"

Diameter of screw 7'-0" Pitch of screw 9'-6" No. of blades 3 state whether moveable No total surface 17 sq ft

No. of Feed pumps two diameter of ditto 2 1/2" Stroke 9" Can one be overhauled while the other is at work Yes

No. of Bilge pumps two diameter of ditto 2 1/2" Stroke 9" Can one be overhauled while the other is at work Yes

Where do they pump from Fore hold, Stockhole, Engine room & After hold

FR. of Donkey Engines One Size of Pumps 2 1/2" suction Where do they pump from Fore hold, Stockhole

Engine room & After hold

Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

of bilge injections two and sizes 3" Are they connected to condenser, or to circulating pump Pump

How are the pumps worked Levers from A.P. Cylinder crosshead

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & Cocks

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 Bilge pipe to fore hold How are they protected wood covering

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

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock 2<sup>nd</sup> April 88.

Is the screw shaft tunnel watertight No and fitted with a sluice door Yes worked from main or upper deck

## BOILERS, &c.—

Number of Boilers two Description Multitubular Whether Steel or Iron Steel

Working Pressure 110 lbs Tested by hydraulic pressure to 240 lbs Date of test 4<sup>th</sup> February 88.

Description of superheating apparatus or steam chest None

Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately

No. of square feet of fire grate surface in each boiler 35 sq ft Description of safety valves Springs No. to each boiler two

Area of each valve 14 sq in Are they fitted with easing gear Yes No. of safety valves to superheater — area of each valve —

Are they fitted with easing gear Smallest distance between boilers and bunkers or woodwork 10" Diameter of boilers 8'-9"

Length of boilers 9'-6" description of riveting of shell long. seams Lap & treble circum. seams Lap & double riveted thickness of shell plates 1/4"

Diameter of rivet holes 1/2" whether punched or drilled drilled pitch of rivets 3 1/2" Lap of plating 6 1/2"

Per centage of strength of longitudinal joint 73.5 working pressure of shell by rules 110 lbs size of manholes in shell 13 1/2" x 10 1/2"

Size of compensating rings 36" x 34" x 5" No. of Furnaces in each boiler Three

Outside diameter 2'-3" length, top 6'-6" bottom 6'-9" thickness of plates 1/2" description of joint double butt if rings are fitted no.

Greatest length between rings — working pressure of furnace by the rules 127 combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"

Pitch of stays to ditto, sides 7 3/8" back 7 3/8" top 7 1/4" If stays are fitted with nuts or riveted heads nuts working pressure of plating by

rules 110 Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 160 end plates in steam space, thickness 3/4"

Pitch of stays to ditto 13 1/2" how stays are secured double nuts & washers working pressure by rules 110 diameter of stays at

smallest part 1 1/16" working pressure by rules 140 Front plates at bottom, thickness 1/4" Back plates, thickness 1/4"

Greatest pitch of stays 10" x 8" working pressure by rules 170 Diameter of tubes 3" pitch of tubes 3 3/8" thickness of tube

plates, front 1/4" back 3/8" how stayed tubes pitch of stays 11 3/8" width of water spaces 5 3/8" x 7"

Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes

Pitch of rivets — working pressure of shell by rules — diameter of flue — thickness of plates — If stiffened with rings

Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness how stayed

Superheater or steam chest; how connected to boiler

## DONKEY BOILER—

Description

None

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Iron

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 \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers can enter the donkey boiler \_\_\_\_\_

diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_

Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_

per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_

Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of 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 plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

J. Gilling

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &amp;c.)

The Engines and Boilers of this vessel were surveyed by me while under construction and when being fitted on board with a view to obtaining the class in the Society ~~L.M.C.~~

The materials and workmanship are of good description.

Had a trial of the Engines and Boilers under steam and found very satisfactory. The Engines working with without heating and the Boilers being tight and sound in all parts. and now consider the Engines and Boilers to be in a good efficient and safe working condition.

Low

It is submitted that this vessel is eligible to have ~~L.M.C.~~ 4-88 recorded  
W.A.  
4-2-89.

The amount of Entry Fee .. £ 1 : - : received by me,

Special .. £

Donkey Boiler Fee .. £

Certificate (if required) .. £

To be sent as per margin.

(Travelling Expenses, if any, £ )

Committee's Minute

+ dmb 4/88

TUES 6 FEB 1889

TUES 30 APRIL 1889

Andrew Johnson  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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Foundation