

REPORT ON MACHINERY.

3994

Port of Aberdeen

Received at London Office

No. 3994

No. in Survey held at Aberdeen

Date, first Survey Dec. 3rd 1888 Last Survey July 13 1889

Reg. Book.

(Number of Visits 49)

on the

S.S. "Yuen Sang"

Tons 1105

Master Stessor

Built at Aberdeen

By whom built Messrs Hall Russell & Co

When built 1889

Engines made at Aberdeen

By whom made Messrs Hall Russell & Co

when made 1889

Boilers made at

By whom made

when made 1889

Registered Horse Power 200

Owners Indo-China Steam Nav. Co

Port belonging to London

ENGINES, &c.—

Description of Engines Compound Inverted Direct acting Triple Expansive Heating Surface 2770 sq ft (N. H. P. 183 as per formula)

Diameter of Cylinders 21, 33, 54 Length of Stroke 30 No. of Rev. per minute 80 Point of Cut off, High Pressure 2 1/2 Low Pressure 2 1/2

Diameter of Screw shaft 11 1/2 Diam. of Tunnel shaft 11 Diam. of Crank shaft journals 11 1/2 Diam. of Crank pin 11 1/2 size of Crank webs 13 1/2 x 4 1/2

Diameter of screw 14 Pitch of screw 16 ft No. of blades 4 state whether moveable No total surface 59.6 sq ft

No. of Feed pumps 2 diameter of ditto 3 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 diameter of ditto 4 Stroke 21 Can one be overhauled while the other is at work Yes

Where do they pump from Bilges of each compartment

No. of Donkey Engines 2 Size of Pumps 3 1/2 4 8 10 Where do they pump from Sea, hotwell, ballast

tanks, bilges of each compartment

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

No. of bilge injections 1 and sizes 1 1/2 dia Are they connected to condenser, or to circulating pump air pump

How are the pumps worked By levers on intermediate engine

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 Below

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 Forward suction How are they protected Wood casing

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 Previous to launching

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from top platform

BOILERS, &c.—

Number of Boilers Two Description Cyl. Mult. single ended Whether Steel or Iron Steel

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test June 5th 1889

Description of superheating apparatus or steam chest Horizontal dome

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

No. of square feet of fire grate surface in each boiler 45 sq ft Description of safety valves direct spring No. to each boiler Two

Area of each valve 11.04 sq in Are they fitted with easing gear Yes No. of safety valves to superheater 1 area of each valve 1

Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 10 Diameter of boilers 12' 6"

Length of boilers 10' 4" description of riveting of shell long. seams Tab riv butt circum. seams Old lap Thickness of shell plates 1 1/2

Diameter of rivet holes 1 3/32 whether punched or drilled Drilled pitch of rivets 4 1/4 x 8 1/2 Lap of plating Straps 20 x 3

Per centage of strength of longitudinal joint 85.6 working pressure of shell by rules 141 lbs size of manholes in shell 16 x 12

Size of compensating rings 28 x 3/4 double riveted No. of Furnaces in each boiler 3

Outside diameter 34" length, top 4 ft bottom 9' 6" thickness of plates 1 1/2 description of joint Ribbed if rings are fitted Yes

Greatest length between rings 4 ft working pressure of furnace by the rules 145 lbs combustion chamber plating, thickness, sides 1 1/2 back 1 1/2 top 1 1/2

Pitch of stays to ditto, sides 7 3/8 x 7 1/4 back 6 3/8 x 7 1/4 top radial If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 160 lbs

rules 160 lbs Diameter of stays at smallest part 1 3/8 x 1 1/2 working pressure of ditto by rules 140 lbs end plates in steam space, thickness 3/32

Pitch of stays to ditto 14" x 14" 3/8 how stays are secured Double nuts working pressure by rules 162 lbs diameter of stays at smallest part 2 3/8 steel

working pressure by rules 168 lbs Front plates at bottom, thickness 1 3/16 Back plates, thickness 1 3/16

Greatest pitch of stays 11 1/2 working pressure by rules 144 lbs Diameter of tubes 3 1/2 pitch of tubes 4 1/2 thickness of tube plates, front 1 5/16 back 1 3/16

how stayed stay tubes pitch of stays 9 1/2 x 14 width of water spaces 1 1/8 x 10 1/2

Diameter of Superheater or Steam chest 30" length 5' 3" thickness of plates 1 1/2 description of longitudinal joint Old lap diam. of rivet holes 1 1/2

Pitch of rivets 2 3/4 working pressure of shell by rules 188 lbs diameter of flue 1 1/2 thickness of plates 1 1/2 If stiffened with rings Yes

Distance between rings 10 working pressure by rules 140 lbs end plates of superheater, or steam chest; thickness 1 1/2 how stayed ends dashed

and one long stay 3 1/2 dia Superheater or steam chest; how connected to boiler Double riveted

Description of furnaces

DONKEY BOILER—

Description

Vertical 3 cross tubes

Made at *Aberdeen* by whom made *Messrs Hall Russell & Co* when made *1889* where fixed *Holehold*

Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *52* fire grate area *20 sq ft* description of safety

valves *Direct Spring* No. of safety valves *2* area of each *4 1/4 sq* if fitted with easing gear *Yes* if steam from main boilers can

enter the donkey boiler *No* diameter of donkey boiler *5 3/4* length *10 6/8* description of riveting *Vertical Old riv lap*

Thickness of shell plates *7/16* diameter of rivet holes *13/16* whether punched or drilled *Drilled* pitch of rivets *2 3/4* lap of plating *1 1/2*

per centage of strength of joint *40* thickness of crown plates *13/16* stayed by *Six 2" stays*

Diameter of furnace, top *4 3/4* bottom *4 9/16* length of furnace *5 1/8* thickness of plates *1 1/8* description of joint *Vert Single riv lap*

Thickness of furnace crown plates *9/16* stayed by *Six 2" stays & 1 1/2" screw stays in fur sides* working pressure of shell by rules *100 lbs*

Working pressure of furnace by rules *80 lbs* diameter of uptake *14"* thickness of plates *1/2"* thickness of water tubes *5/8"*

SPARE GEAR. State the articles supplied:— *1 Propeller, 1 tail shaft, 1 crank shaft, 1 set of crank pin*

brasses with bolts and nuts 1 pair of top end brasses with bolts and nuts

4 main bearing brasses 2 main bearing bolts and nuts 1 set of coupling bolts

1 air pump rod 1 circulating pump rod 24 condenser tubes &c &c. In excess of the Rules

The foregoing is a correct description,

Hall Russell & Co Manufacturer's

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

The Engines and Boilers of this vessel have been constructed under special survey, they are of good material and workmanship, and eligible in my opinion to receive the notification of L M C 7-89 in the Register Book

The main Boiler tracing is returned herewith

OK

It is submitted that this vessel is eligible to have + L.M.C. 7. 89 recorded

*W.A.
16. 7-89*

The amount of Entry Fee .. £ 2 : : received *by me*

Special .. £ 30 : :

Donkey Boiler Fee .. £ 2 : 2 :

Certificate (if required) .. £ : : *14/4/89*

(To be sent as per margin.)

(Travelling Expenses, if any, £)

Committee's Minute

FRIDAY 19 JULY 1889

+ L M C 7/89

J. L. Hindmarsh

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



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