

## REPORT ON MACHINERY.

SAT. JAN 11 1896

Port of Sunderland

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Received at London Office

No. in Survey held at SunderlandDate, first Survey 27 August 95 Last Survey 2 Dec 1895

Reg. Book.

on the S/S. "Sui Sang"(Number of Visits) 1st 4 Dec 95 2nd 24 Dec 1895Tons Gross 2490.24Net 1446.14When built 1895Master J. F. Galsworthy Built at Middlesbrough By whom built Sir R. Dixon & CoEngines made at Sunderland By whom made N. & M. Eng Co Ltd when made 1895Boilers made at Sunderland By whom made N. & M. Eng Co Ltd when made 1895Registered Horse Power 300 Owners Indo China S. & Co Ltd Port belonging to LondonNom. Horse Power as per Section 28 295ENGINES, &c.— Description of Engines Tri compound 3 crank No. of Cylinders 3Diameter of Cylinders 23" 36" 59" Length of Stroke 42" Revolutions per minute 65 Diameter of Screw shaft as per rule 10 3/32Diameter of Tunnel shaft as fitted 10 3/4" Diameter of Crank shaft journals 11 1/4" Diameter of Crank pin 11 1/4" Size of Crank webs 17 1/2"Diameter of screw 15 6" Pitch of screw 15 6" No. of blades 4 State whether moveable f Total surface 64 6No. of Feed pumps 2 Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yesNo. of Donkey Engines 2 Sizes of Pumps 6 x 4 x 6 + 7 x 9 x 9 No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room P. 3. C. 2 of 3. S. 3 In Holds, &c. h. 1 - 2 of 3. h. 2 - 2 of 3No. of bilge injections 1 sizes 5 Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size 4 1/2 x 3 1/2Are 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 noneAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks bothAre 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 aboveAre 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 yesWhat 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 yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yes worked from top platformBOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 3906 sq feet draughtNo. and Description of Boilers 2 Cyl. Multitube S. ended Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbsDate of test 7/11/95 Can each boiler be worked separately yes Area of fire grate in each boiler 48 3/4 sq No. and Description of safety valves toeach boiler 2 direct Spring Area of each valve 9.6 sq Pressure to which they are adjusted 165 lbs Are they fittedwith easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 13.6"Length 11 1/4" Material of shell plates S. Thickness 1 1/16" Description of riveting: circum. seams d. r. lap long. seams T. r. buttDiameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 1/4" Lap of plates or width of butt straps 15 5/8"Percentages of strength of longitudinal joint rivets 85.6 Working pressure of shell by rules 160 lbs Size of manhole in shell 16" x 12"Plate 85.34 No. and Description of Furnaces in each boiler 3 horizontal Material S. Outside diameter 3' 7 1/4"Length of plain part top Thickness of plates crown 1 1/32" Description of longitudinal joint welded No. of strengthening rings —Working pressure of furnace by the rules 160 lbs Combustion chamber plates: Material S. Thickness: Sides 1 1/32" Back 1 1/32" Top 1 1/32" Bottom 3/4" TPitch of stays to ditto: Sides 8 1/2 x 8 1/2" Back 8 1/2 x 8 1/2" Top 8 1/2 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 160 lbsMaterial of stays S. Diameter at smallest part 1 3/8 full Area supported by each stay 72 1/4" Working pressure by rules 166 lbs and plates in steam space:Material S. Thickness 1 5/32" Pitch of stays 19 1/4 x 19 1/8" How are stays secured d nuts Working pressure by rules 160 lbs Material of stays S.Diameter at smallest part 3 3/32" Area supported by each stay 382 Working pressure by rules 170 lbs Material of Front plates at bottom S.Thickness 1 3/16" Material of Lower back plate S. Thickness 7/8" Greatest pitch of stays 12 9/16" Working pressure of plate by rules 190 lbsDiameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 3/4" Material of tube plates S. Thickness: Front 3/4" Back 3/4" Mean pitch of stays 7 1/2"Pitch across wide water spaces 13 1/4" Working pressures by rules 258 lbs Girders to Chamber tops: Material S. Depth andThickness of girder at centre 6 3/4" Length as per rule 28 2 1/2" Distance apart 8 3/8" Number and pitch of Stays in each 2 of 85"Working pressure by rules 166 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler workedseparately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetholes — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —stiffened with rings — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —Working pressure of end plates — Area of safety valves to superheater — Are they fitted with easing gear —



DONKEY BOILER— Description Vertical with 4 cross water tubes.  
Made at Stockton By whom made Riley Bros When made 10/95 Where fixed Stonehead  
Working pressure 80 lbs Tested by hydraulic pressure to 160 lbs No. of Certificate 1147 Fire grate area 20 sq ft Description of safety valves One spring  
No. of safety valves 2 Area of each 4.06 Pressure to which they are adjusted 85 lbs If fitted with easing gear Yes If steam from main boilers can  
enter the donkey boiler No Diameter of donkey boiler 6' 6" Length 13' 6" Material of shell plates Steel Thickness 1/16"  
Description of riveting long seams Lap Double Diameter of rivet holes 1/8" Whether punched or drilled Punched Pitch of rivets 3/8"  
Lap of plating 4 1/4 Per centage of strength of joint Rivets 74.7 Thickness of shell crown plates 1/32 Radius of do. 5 ft No. of Stays to do. 7  
Dia. of stays 1 1/2" Diameter of furnace Top 4' 10" Bottom 5' 5 1/4" Length of furnace 5' 3" Thickness of furnace plates 1/32" Description of  
joint Lap Single Thickness of furnace crown plates 1/32" Stayed by Same as shell crown Working pressure of shell by rules 85 lbs  
Working pressure of furnace by rules 84 lbs Diameter of uptake 16" Thickness of uptake plates 1/16" Thickness of water tubes 3/8"

SPARE GEAR. State the articles supplied:— 1 set of connecting rod top & bottom end bolts  
nuts. 2 main bearing bolts & nuts. 1 set of coupling bolts & nuts  
1/3 crank & propeller shaft. 1 set of feed & bilge pump valves.

The foregoing is a correct description,  
J. M. Smith Easton Marine Engineer & Manufacturer.  
J. M. Smith & Co. Shipbuilders

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

Dates of Survey while building  
During progress of work in shops— 1895 August 24 29 31 Sept. 2 5 6 9 10 11 12 13 16 17 18 21 24 26 27 30 October 2 4 7 8 9 11  
During erection on board vessel— 11 14 16 17 19 21 22 23 24 28 29 30 31 Nov. 1 4 7 8 11 13 15 19 25 26 29 Dec 2  
Total No. of visits 52 1895 Oct 12 19 Dec 10 19 27 4th

Machinery and boilers constructed under Special Survey. Materials & workmanship good & efficient. Steam pipes tested by hydraulic to 320 lbs. Engines & boiler examined under steam & found satisfactory.

In my opinion this vessel will be eligible for the record of + L.M.C. 1/96 in the Register Book when the following work has been completed.  
pumping arrangement completed as per approved plan  
Donkey boiler stayed in place. mounted & its safety valve adjusted to the li. p. Spare gear examined &  
Electric lighting installation fitted

The vessel has sailed for Sunderland where the Survey will be completed and Spare gear put on board.  
The Donkey Boiler has now been examined under steam and its safety valves adjusted. Work finished.

Electrical installation fitted by J. H. Holmes of Newcastle

It is submitted that  
this vessel is eligible for  
THE RECORD.

L.M.C. 1.96. F.D.

Electric Light

Certificate (if required) to be sent to

The amount of Entry Fee. £ 2 : 0 : 0

Special .. .. £ 33 : 15 : 0

Donkey Boiler Fee .. .. £ - : - : -

Travelling Expenses (if any) £ - : - : -

When applied for,

11.1.96

When received,

11.1.96

Committee's Minute

TUES. JAN 14 1896

Assigned

+ L.M.C. 1.96

FD

elec. light

MACHINERY CERTIFICATE  
WRITTEN.

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



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Lloyd's Register  
Foundation

Signal Le

Official

105

No., Date,

Whether Br

Foreign E

British

Number of

Number of

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Framework

vessel

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W B & L (439)