

REPORT ON MACHINERY.

10736

No. 6436

Received at London Office. MONDAY 17 NOV 1884

No. in Survey held at Dumbarton Date, first Survey April 15th Last Survey Nov 13th 1884

Reg. Book. on the Screw Steamer "Chau" (Number of Visits 25) Tons 699.89
111.03

Master A. Morris Built at Dumbarton By whom built Mr Jemmy Brothers When built 1884

Engines made at Dumbarton By whom made Jemmy & Co when made 1884

Boilers made at " By whom made " when made 1884

Registered Horse Power 92 Owners Union Steam Ship Co of New Zealand Port belonging to Dunedin

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting

Diameter of Cylinders 26 1/2" & 48" Length of Stroke 30 No. of Rev. per minute 75 Point of Cut off, High Pressure 1/4 Low Pressure 1/4

Diameter of Screw shaft 9" Diam. of Tunnel shaft 8 1/2" Diam. of Crank shaft journals 9 1/2" Diam. of Crank pin 9 1/2" size of Crank webs 6" x 11 1/2"

Diameter of screw 12 1/2" Pitch of screw 16 1/2" No. of blades 4 state whether moveable Yes total surface 38 1/2"

No. of Feed pumps Two diameter of ditto 3" Stroke 16 1/8" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two diameter of ditto 3" Stroke 16 1/8" Can one be overhauled while the other is at work Yes

Where do they pump from All compartments

No. of Donkey Engines Two Size of Pumps 8" x 4" x 9" and 10" x 8" x 10" Where do they pump from Sea Bilge Hotwell also from Ballast Tanks

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 One and sizes 5 1/4" Are they connected to condenser, or to circulating pump To Circulating

How are the pumps worked By Eccentrics on Crank webs

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 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 On slip before launching

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

BOILERS, &c.—

Number of Boilers One Description Round Horizontal Whether Steel or Iron Steel

Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 16th Sept 1884

Description of ~~superheating apparatus~~ steam chest Round Longitudinal

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

No. of square feet of fire grate surface in each boiler 69 ft² Description of safety valves Direct Spring No. to each boiler Two

Area of each valve 15.9" 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 18" Diameter of boilers 14" & 4 1/2"

Length of boilers 9' 11 1/2" description of riveting of shell long. seams Double riveted circum. seams Double riveted Thickness of shell plates 1 1/16" full

Diameter of rivet holes 1 3/16" in butt whether punched or drilled Drilled pitch of rivets 1 1/2" Lap of plating 12 1/4" Straps

Per centage of strength of longitudinal joint 45% working pressure of shell by rules 85 lbs size of manholes in shell 14" x 18"

Size of compensating rings Doubling plate fitted No. of Furnaces in each boiler Three

Outside diameter 3' 9" length, top 6' 6" bottom 9' 5" thickness of plates 1 1/16" description of joint Corrugated if rings are fitted —

Greatest length between rings — working pressure of furnace by the rules 111 lbs combustion chamber plating, thickness, sides 1 1/16" back 1 1/16" top 1 1/16"

Pitch of stays to ditto, sides 8" x 8 3/4" back 8" x 8 3/4" top 8" x 8" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 106 lbs

Diameter of stays at smallest part 1 1/2" steel working pressure of ditto by rules 112 lbs and plates in steam space, thickness 1 3/16"

Pitch of stays to ditto 14" x 14" how stays are secured By double nut working pressure by rules 80 lbs diameter of stays at smallest part 2" working pressure by rules 80 lbs Front plates at bottom, thickness 1 3/16" Back plates, thickness 1 10/16"

Greatest pitch of stays 11" x 8 3/4" working pressure by rules 115 lbs Diameter of tubes 3 1/2" pitch of tubes 4 1/2" x 4 1/2" thickness of tube plates, front 1 1/16" back 1 1/16" how stayed By tubes pitch of stays 9" x 13 1/2" width of water spaces 6"

Diameter of ~~Superheater~~ Steam chest 3' 2" length 6' 0 1/2" thickness of plates 1 1/16" description of longitudinal joint Double riveted diam. of rivet holes 1 1/8"

Pitch of rivets 3 1/4" working pressure of shell by rules 181 lbs diameter of flue — thickness of plates — If stiffened with rings —

Distance between rings — working pressure by rules — end plates of ~~superheater~~ steam chest; thickness 1 1/16" how stayed Fished 8' 0 1/2" radius

~~Superheater~~ steam chest; how connected to boiler By neck piece 15" dia x 1 1/4"

State if Report is also sent on the Hull of the Ship



6736 gls

Auxiliary or
DONKEY BOILER— Description *Round multitubular*

Made at *Dumbarton* by whom made *Jenny Gray* when made *1884* where fixed in *Stokehold*

Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1504* fire grate area *21 sq* description of safety

valves *Direct Spring* No. of safety valves *Two* area of each *4"* if fitted with easing gear *yes* if steam from main boilers can

enter the donkey boiler *No* diameter of donkey boiler *10 1/2 0 3/4"* length *4' 10 3/8"* description of riveting *Double butt straps riveted*

Thickness of shell plates *1 1/16"* diameter of rivet holes *3/8"* whether punched or drilled *Drilled* pitch of rivets *3 1/4" x 1 1/8"* lap of plating *Straps 10"*

per centage of strength of joint *4/5* thickness of crown plates *3/16"* stayed by *Stays 2 1/2" dia 16" x 16 1/2" pitch*

Diameter of furnace, top *3' 6"* bottom *3' 0"* length of furnace *5' 0"* thickness of plates *3/16"* description of joint *Double butt straps*

Thickness of *Comb Chamber* furnace crown plates *3/16"* stayed by *Screw Stays 9" x 8 3/4" + 9 1/2" x 8 3/4"* working pressure of shell by rules *95 lbs*

Working pressure of furnace by rules *110 lbs* diameter of uptake *12"* thickness of plates *1 1/16" + 1 1/16"* thickness of water tubes *1 1/16"*

SPARE GEAR. State the articles supplied:— *One half Crank Shaft, 1 Propeller shaft complete, 4 propellers, blades*

2 valve Spindles, Bushes for Crank pins + valve gear, 2 valves + seats for feed + 2 for bilge pumps

1 pump rod to fit either Air or Circulating, 2 complete sets of valves for Air + Circulating pumps

50 condenser tubes, 36 boiler tubes, 1 set Coupling bolts, 4 connecting rod bolts top + bottom, assortment of bolts

+ nuts + iron and other gear

The foregoing is a correct description,

Jenny Gray Manufacturers.

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines + Boilers are of good*)

materials and workmanship and are now in good order + safe working

and eligible in my opinion to be noted in the Register Book

Lloyd's M.C. 11. 84

Condition

This submitted that the vessel is eligible to have the notification done 11. 84 needed.

11 84

The amount of Entry Fee .. £ 1 : - - received by me,
Special .. £ 13 : 16 : -
Donkey Boiler Fee .. £ - : - : -
Certificate (if required) .. £ - : - : - 14/11/84

(Travelling Expenses, if any, £)

Committee's Minute

TUESDAY 13 NOV 1884

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

Clyde District