

REPORT ON MACHINERY.

4142

No. 4142

Received at London Office

THUR 15 OCT 1885

No. in Survey held at *Dumbarton*

Date, first Survey *19th Jan^y*

Last Survey *12th Oct^r 1885*

Reg. Book.

(Number of Visits *35*)

1504.56

on the *Screw Steamer "Barcoo"*

Tons *445.29*

Master *H. M. Ingram* Built at *Dumbarton* By whom built *Mr Denny Brothers* When built *1883*

Engines made at *Dumbarton* By whom made *Denny & Co* when made *1885*

Boilers made at *Dumbarton* By whom made *" " "* when made *1883*

Registered Horse Power *308* Owners *Queensland Steam Ship Co* Port belonging to *London*

ENGINES, &c.—

Description of Engines *Triple Expansive (Three Cylinders)*

Diameter of Cylinders *25" 41" + 68"* Length of Stroke *48"* No. of Rev. per minute *94* Point of Cut off, High Pressure *—* Low Pressure *—*

Diameter of Screw shaft *12 3/4"* Diam. of Tunnel shaft *11 1/2"* Diam. of Crank shaft journals *12 3/4"* Diam. of Crank pin *18"* size of Crank webs *19" x 9"*

All shafting turned & finished at the *Engineers Works*

Diameter of screw *13" 6"* Pitch of screw *19 ft* No. of blades *—* state whether moveable *Yes* total surface *50.4 ft²*

No. of Feed pumps *Two* diameter of ditto *4 1/4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *Two* diameter of ditto *4 1/4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*

Where do they pump from *All Compartments*

No. of Donkey Engines *Four* Size of Pumps *4" Cyl 8" x 10" Stroke* Where do they pump from *Ballast Tanks + Bilges*
Sea Hotwell + Bilge + Trays
Sea

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"* Are they connected to condensers, or to circulating pump *To Circulating*

How are the pumps worked *By Lever*

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 *Bilge pipes to fore hold* How are they protected *Iron 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 *One 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 *Two* Description *Round double end* Whether Steel or Iron *Steel*

Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *10th August 1885*

Description of superheating apparatus *Longitudinal Receiver*

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 *96 ft²* Description of safety valves *Direct Spring* No. to each boiler *Three*

Area of each valve *8.9"* 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 *about 12"* Diameter of boilers *13" 7/16"*

Length of boilers *14 ft* description of riveting of shell long. seams *Double butted straps* circum. seams *Double riveted* Thickness of shell plates *1 1/4"*

Diameter of rivet holes *1 1/4"* whether punched or drilled *Drilled* pitch of rivets *6 1/2" x 3"* Lap of plating *Straps 20 1/4" x 1 1/4"*

Per centage of strength of longitudinal joint *80%* working pressure of shell by rules *164 lbs* size of manholes in shell *17" x 13"*

Size of compensating rings *Doubling plates* No. of Furnaces in each boiler *Four*

Outside diameter *4' 2 1/4"* length, top *6' 6"* bottom *—* 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 *160 lbs* combustion chamber plating, thickness, sides *9/16"* back *—* top *9/16"*

Pitch of stays to ditto, sides *4 3/4" x 6 1/4"* back *—* top *8" x 6 1/4"* if stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *182* Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *184* end plates in steam space, thickness *1 1/16"*

Pitch of stays to ditto *16" x 12"* how stays are secured *by double nuts* working pressure by rules *180 lbs* diameter of stays at smallest part *2 3/4"* working pressure by rules *191 lbs* Front plates at bottom, thickness *1 1/16"* Back plates, thickness *—*

Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *4"* pitch of tubes *5 1/4" x 5 1/4"* thickness of tube plates, front *1 1/16"* back *1 1/16"* how stayed *by tubes* pitch of stays *20 1/2" x* width of water spaces *Double butt*

Diameter of Superheater or Steam chest *3' 1 1/2"* length *6' 9"* thickness of plates *9/16"* description of longitudinal joint *Double riveted* diam. of rivet holes *7/8"*

Pitch of rivets *3"* working pressure of shell by rules *240 lbs* 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 *1 1/16"* how stayed *by stays fixed to 2 1/2" radius*

Superheater or steam chest; how connected to boiler *By neck 18" dia 1/2" thick*



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DONKEY BOILER — Description *Round Horizontal*
 Made at *Lumbaston* by whom made *Denney & Co* when made *1883* where fixed *On upper deck*
 Working pressure *160 lbs* tested by hydraulic pressure to *320 lbs* No. of Certificate *16004* fire grate area *16.5 ft* description of safety valves *Direct Spring* No. of safety valves *one* area of each *4"* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *yes* diameter of donkey boiler *8 1/2"* length *8' 3 3/16"* description of riveting *Double butt double riveted*
 Thickness of shell plates *13/16"* diameter of rivet holes *1 1/8"* whether punched or drilled *Drilled* pitch of rivets *4 1/2" x 2 1/2"* of plating per centage of strength of joint thickness of *end* plates *10/16"* stayed by *bar stays 2 1/2" dia 14" x 14" pitch*
 Diameter of furnace, *top 3' 3"* bottom *✓* length of furnace *6 ft* thickness of plates *9/16"* description of joint *Corrugated*
 Thickness of furnace *comb chamber* plates *9/16"* stayed by *Screw stays 4 1/4" x 4 1/4" x 4" 13/8" dia* working pressure of shell by rules
 Working pressure of furnace by rules *144 lbs* diameter of uptake *✓* thickness of plates *13/16" & 1 1/2"* thickness of water tubes *✓*

SPARE GEAR. State the articles supplied: — *One Propeller + Propeller Shaft complete 2 main bearing bolts, 4 Connecting Rod bolts (top + bottom), 6 Coupling bolts, one Eccentric strap + 2 bolts. Air + Circulating pump rod, 1 set piston springs, Piston valves one set packing rings. Spindle for each. Two valves with seats for Feed + Bidge pumps, one third Crank shaft. The foregoing is a correct description, Boiler + Condenser tubes, Quadrant bushes, Safety valve springs, bolts nuts + other gear*
Denney & Co. Manufacturers.

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines + Boilers are of the best workmanship + materials and are now in good order safe working condition and eligible in my opinion to be noted in the Register Book* ✖ *Lloyds M.C. 10/83*)

It is submitted that this vessel is eligible to have a M.C. 10 & recorded in 15/10/83

The amount of Entry Fee .. £ *3* : : received by me,
 Special £ *35* : 8 :
 Donkey Boiler Fee £ : :
 Certificate (if required) .. £ : : *14/10/1885*
 To be sent as per margin.
 (Travelling Expenses, if any, £ - *8/-*)

Committee's Minute **FRIDAY 16 OCT 1885**

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

