

REPORT ON MACHINERY.

No. 530

(Received in London Office)

No. in Survey held at Newcastle Date, first Survey 11th Dec 1880 Last Survey 9th July 1881

on the Screw Steamer "De Bay" Tons 1664
1083

Master W. Baird Built at Newcastle When built 1881

Engines made at Newcastle By whom made Palmers & Co when made 1881

Boilers made at Do By whom made Do when made 1881

Registered Horse Power 160 Owners Capper Alexander & Co. Port belonging to Bar diff

ENGINES, &c.—

Description of Engines Inverted compound surface condensing

Diameter of Cylinders 30" & 55" Length of Stroke 42" No. of Rev. per minute 60 Point of Cut off, High Pressure 22" Low Pressure 18"

Diameter of Screw shaft 10 3/4" Diameter of Tunnel shaft 10" Diameter of Crank shaft journals 10 3/4" Diameter of Crank pin 11" size of Crank webs 12 3/4" x 7 3/8"

Diameter of screw 15" 0" Pitch of screw 16" 0" No. of blades 4 state whether moveable yes total surface 58 square ft.

No. of Feed pumps 2 diameter of ditto 4 1/4" Stroke 18" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2 diameter of ditto 4 1/4" Stroke 18" Can one be overhauled while the other is at work yes.

Where do they pump from engine space, after hold well, tunnel well and all tanks and sea

No. of Donkey Engines 2 Size of Pumps 4x6 & 4x12 Where do they pump from engine space, after hold well, tunnel well, ballast tanks and 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 1 and sizes 5" Are they connected to condenser, or to circulating pump circulating

How are the pumps worked lowers over condenser

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 Now

Is the screw shaft tunnel watertight yes. and fitted with a sluice door yes. worked from engine room platform

OILERS, &c.—

Number of Boilers 2 Description cyindrical & multitubular

Working Pressure 80 lbs. Tested by hydraulic pressure to 160 lbs. Date of test 8.3.81 No. of Certif^e 555.

Description of ~~boilers~~ steam chest horizontal dome, connected to boiler by copper pipes & stop valves

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 43 sq. ft. Description of safety valves spring

No. to each boiler 2 area of each valve 12.5 sq. ins. 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 9"

Diameter of boilers 12" 9" Length of boilers 10" 0" description of riveting of shell long. seams lap, triple riv circum. seams double riv

Thickness of shell plates 7/8" diameter of rivet holes 1 3/16" whether punched or drilled drilled pitch of rivets 1 1/16"

Lap of plating 9" per centage of strength of longitudinal joint 74 working pressure of shell by rules 80 lbs.

Size of manholes in shell 12" x 16" through end plate size of compensating rings —

No. of Furnaces in each boiler 3 outside diameter 39 ins. length, top 5" 9" bottom 8" 10"

Thickness of plates 1/2 top, 9/16 bottom description of joint lap if rings are fitted None greatest length between rings —

Working pressure of furnace by the rules 82 lbs.

Combustion chamber plating, thickness, sides 1/2" back 9/16" top 9/16"

Pitch of stays to ditto — sides 8 3/4" x 8" back 8 1/2" x 8" top 23" radius

If stays are fitted with nuts or riveted heads riveted heads working pressure of plating by rules 89 lbs.

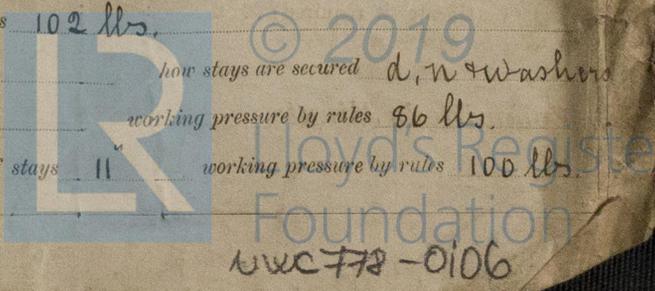
Diameter of stays at smallest part 1 1/2" working pressure of ditto by rules 102 lbs.

End plates in steam space, thickness 3/4" pitch of stays to ditto 15 7/8" how stays are secured d, n washers

Working pressure by rules 87 lbs. diameter of stays at smallest part 2 1/4" working pressure by rules 86 lbs.

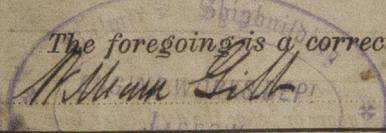
Front plates at bottom, thickness 1 1/16" Back plates, thickness 1 1/16" greatest pitch of stays 11" working pressure by rules 100 lbs.

Report recd 28/1/81 sent to Mr. G. J. G. 9/4/81



Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{1}{2}$ " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{1}{6}$ "
 How stayed tube stays pitch of stays $13\frac{1}{2}$ " width of water spaces 10"
 Diameter of ~~Superheater~~ or Steam chest $4\frac{1}{2}$ " length 6" 0"
 Thickness of plates $\frac{1}{2}$ " description of longitudinal joint lap. d. riv diameter of rivet holes $\frac{7}{8}$ " pitch of rivets $2\frac{3}{4}$ "
 Working pressure of shell by rules 99 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 $\frac{13}{16}$ " How stayed 4, $2\frac{1}{4}$ " diam^m stays effective
~~Superheater~~ steam chest; how connected to boiler ~~Steam pipes and stop valves~~

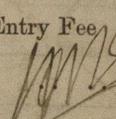
DONKEY BOILER— Description cylindrical and vertical
 Made at ~~Newcastle~~ By whom made ~~Clarke & Symonds~~ when made June 1881
 Where fixed ~~Stockholm~~ working pressure 50 lbs. Tested by hydraulic pressure to 100 lbs. No. of Certificate 568
 Fire grate area 22 sq. ft. Description of safety valves spring. No. of safety valves 1 area of each 11 sq. in.
 If fitted with easing gear ~~yes~~ If steam from main boilers can enter the donkey boiler ~~No~~
 Diameter of donkey boiler $6\frac{1}{2}$ " length 13" 3" description of riveting long seams, double rivets
 thickness of shell plates $\frac{3}{8}$ " diameter of rivet holes $\frac{3}{4}$ " whether punched or drilled punched.
 pitch of rivets 5" lap of plating $4\frac{1}{2}$ " per centage of strength of joint 75
 thickness of crown plates $\frac{7}{16}$ " stayed by 6, $1\frac{1}{2}$ " stays
 Diameter of furnace, top $4\frac{1}{2}$ " 9" bottom $5\frac{1}{2}$ " length of furnace 6" 9"
 thickness of plates $\frac{1}{2}$ " description of joint single riveted.
 thickness of furnace crown plates $\frac{1}{2}$ " stayed by 5, $1\frac{1}{2}$ " stays.
 Working pressure of shell by rules 60 lbs. working pressure of furnace by rules 60 lbs.
 diameter of uptake 15" thickness of plates $\frac{3}{8}$ " thickness of water tubes $\frac{3}{8}$ "

The foregoing is a correct description,

 Manufacturer.

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

The machinery of this vessel has been specially surveyed during construction, the materials and workmanship good, and render the vessel eligible in my opinion to have the notification of Lloyd's M.B. recorded in the Society's Register Book.

Handwritten note:
 The machinery of this vessel has been specially surveyed during construction, the materials and workmanship good, and render the vessel eligible in my opinion to have the notification of Lloyd's M.B. recorded in the Society's Register Book.

The amount of Entry Fee £ 3 : - : - received by me,
 Special  £ 24 : - : -
 Certificate (if required) ~~gratis~~ - : - : - 6th July 1881
 To be sent as per margin.

Committee's Minute

12/4/81 18

+ Lloyd's Register

David James.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
 N. Shields.



Lloyd's Register Foundation