

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office

THUR, 1 JUN 1899

No. in Survey held at SunderlandDate, first Survey 28th Jan 99 Last Survey 19th May 1899

7. Book.

(Sup) in the S. S. Anglo Australian(Number of Visits 33)Tons { Gross 4019
Net 2581Master J. Parsons Built at Sunderland By whom built Short BrosWhen built 1899Engines made at Sunderland By whom made George Black Limited when made 1899Milers made at Sunderland By whom made George Black Limited when made 1899

Registered Horse Power

Owners Nitrate Producers S. S. Co. Ltd, Port belonging to London
(Lawther, Latta & Co. Mgrs)Horse Power as per Section 28 390Is Electric Light fitted YesGINES, &c.—Description of Engines Tri compoundNo. of Cylinders 3No. of Cranks 3Diameter of Cylinders 26" x 42" x 70" Length of Stroke 48" Revolutions per minute 70 Diameter of Screw shaft as per rule 13.6Diameter of Tunnel shaft as per rule 12.3 as fitted 13 1/16 Diameter of Crank shaft journals 13 1/2 Diameter of Crank pin 14" Size of Crank webs 19 3/4" x 9 1/8"Diameter of screw 17'-6" Pitch of screw 19'-0" No. of blades 4 State whether moveable No Total surface 96 sq ftNo. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 27" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 4 3/8" Stroke 27" Can one be overhauled while the other is at work YesNo. of Donkey Engines 2 Sizes of Pumps 7 1/2" x 8 1/2" x 10, 7 1/2" x 5" x 6" No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room 1 of 4" dia, 5 of 3 1/2" dia. In Holds, &c. No 1 hold 2 of 3 1/2" dia No 2 hold2 of 3 1/2" dia No 3 hold 2 of 3 1/2" dia. No 4 hold 2 of 2 1/2" dia. Tunnel Well 1 of 2 1/2" dia. hold well 1 of 3 1/2" diaNo. of bilge injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes 4" diaAre 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 yesAre 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 T) Total Heating Surface of Boilers 5049 sq ft Is forced draft fitted yesNo. and Description of Boilers 2 Ordinary Marine Type Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbsDate of test 21-4-99 Can each boiler be worked separately yes Area of fire grate in each boiler 60.37 sq ft No. and Description of safety valves toeach boiler 2 Spring loaded Area of each valve 11.045 Pressure to which they are adjusted 180 lbs Are they fittedwith easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 2'-0" Mean diameter of boilers 15'-3"Length 11'-6" Material of shell plates S Thickness 1 1/8" Description of riveting: circum. seams D.R long. seams J.R.D.B.SDiameter of rivet holes in long. seams 13/8" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 1'-8 7/8"Per centages of strength of longitudinal joint rivets 87% Working pressure of shell by rules 205 lbs Size of manhole in shell 16 x 13"Size of compensating ring 9 1/4" x 1 3/8" No. and Description of Furnaces in each boiler 3 Adams Material S Outside diameter 3'-11 5/16"Length of plain part top 2'-0" bottom 2'-0" Thickness of plates crown 2 3/32" bottom 1 3/32" Description of longitudinal joint welded No. of strengthening rings 3Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material S Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 2 3/32"Pitch of stays to ditto: Sides 9 x 9 1/2" Back 9 x 9 1/2" Top 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 192 lbsMaterial of stays Iron Diameter at smallest part 1.73" Area supported by each stay 85 1/2 sq in Working pressure by rules 249 lbs End plates in steam space:Material S Thickness 1 1/32" Pitch of stays 1'-8" x 1'-4" How are stays secured nuts Working pressure by rules 246 lbs Material of stays SDiameter at smallest part 2.09" Area supported by each stay 320 Working pressure by rules 204 lbs Material of Front plates at bottom SThickness 3/4" Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 14" x 8 1/2" Working pressure of plate by rules 191 lbsDiameter of tubes 2 3/4" Pitch of tubes 4" x 3 15/16" Material of tube plates S Thickness: Front 7/16" 1/4" Back 7/16" 1/4" Mean pitch of stays 8"Pitch across wide water spaces 13 3/4" Working pressures by rules 184 lbs Girders to Chamber tops: Material S Depth andthickness of girder at centre 11 1/4" 1/16" x 2 Length as per rule 3'-0" Distance apart 9 1/2" Number and pitch of Stays in each 3 x 9"Working pressure by rules 200 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If 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 *Mult 2 plain furnaces*
Made at *Stockton* By whom made *Riley Bros.* When made *15.3.99* Where fixed *Stokeholm*
Working pressure *100 lbs* tested by hydraulic pressure to *200 lbs* No. of Certificate *1916* Fire grate area *30 sq* Description of safety valves *direct sp*
No. of safety valves *2* Area of each *4.90* Pressure to which they are adjusted *100 lbs* If fitted with casing gear *yes* If steam from main boilers *no*
enter the donkey boiler *No* Diameter of donkey boiler *10'-0"* Length *10'-0"* Material of shell plates *d. 27-32* Thickness *2 1/32"*
Description of riveting long. seams *d. butt str* Diameter of rivet holes *5/16"* Whether punched or drilled *drilled* Pitch of rivets *3 3/4"*
Lap of plating *9 3/4"* Butt str Per centage of strength of joint Rivets *80-6* Thickness of shell plates *2 3/32"* Radius of do. No. of stays to do. *2-14*
Dia. of stays *2" eff iron* Diameter of furnace *36"* Bottom *T 7/16"* Length of furnace *6'-6 3/4"* Thickness of furnace plates *7/32"* Description
joint *welded* Thickness of furnace plates *7/32"* Stayed by *1 1/4" eff iron 7' to 8 1/4" p* Working pressure of shell by rules *113 1/2*
Working pressure of furnace by rules *160 lbs* Diameter of uptake *3 1/2"* Thickness of uptake plates *2 3/32"* Thickness of water tubes *1/16"*

SPARE GEAR. State the articles supplied:—

Top and bottom end connecting rod, bolts, and nuts, two main bearing bolts and nuts, one set of coupling bolts, feed and bilge pump valves, bolts nuts and iron assorted.

The foregoing is a correct description,

For GEORGE CLARK LIMITED
Manufacturer.

Dates of Survey
During progress of work in shops— *1899 Jan 28, Feb 17, 22, 24, March 4, 13, 14, 16, 17, 21, 23, 28 April 4, 6, 14*
During erection on board vessel— *14, 17, 18, 20, 21, 24, 25, 26, 28 May 3, 8, 10, 13, 15, 16, 19*
Total No. of visits *33*

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

ENGINES—Length of stern bush *5'-3"* Diameter of crank shaft journals *12.9* as per rule *14 1/16* Diameter of thrust shaft under collars *14 1/4*

BOILERS—Range of tensile strength *29-32* Are they welded or flanged *flanged* DONKEY BOILERS—No. *1* Range of tensile strength *27-*

Is the approved plan of main boiler forwarded herewith *yes* Is the approved plan of donkey boiler forwarded herewith *no*

The machinery of this vessel has been constructed under Special Survey. The material and workmanship being good and efficient, and the engines when tried under steam worked satisfactory. The main steam pipes have been tested by hydraulic pressure to 400 lbs per square inch, and pumps and watertight doors are in efficient working order.

In my opinion this vessel is eligible for the notification in the Register Book of L. M. C. 5. 99

It is submitted that this vessel is eligible for THE RECORD. L. M. C. 5. 99.

Electric light + F. D. A.C.H. 2.6.99

M.S. 2.6.99

The amount of Entry Fee. £ *3 0 0* When applied for. *31.5.99*
Special. £ *3 9 10* When received. *2/6/99*
Donkey Boiler Fee
Travelling Expenses (if any) £

Committee's Minute

Assigned

FRI, 2 JUN 1899

MACHINERY CERTIFICATE WRITTEN

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



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