

REPORT ON MACHINERY.

Port of *Sunderland*

RECEIVED 27 OCT 1892

No. in Survey held at *S. land*

Reg. Book.

Date, first Survey *January 15/92* Last Survey *Oct 20/91* 18 *92*

(Number of Visits *25*)

on the *S/S "Pondo"*

Master *Salmon* Built at *S. land* By whom built *J. Laing*

Engines made at *S. land* By whom made *G. Clark & Co*

Boilers made at *S. land* By whom made *G. Clark & Co*

Registered Horse Power *500*

Owners *British Colonial M. Co.* Port belonging to *London*

Nom. Horse Power as per Section 28 *284*

Tons { Gross *241.02*
Net *1764.11*
When built *1892*

when made *1892*

when made *1892*

ENGINES, &c.— Description of Engines *Tri compound*

No. of Cylinders *3*

Diameter of Cylinders *24" 38" 64"* Length of Stroke *42"* Revolutions per minute *65* Diameter of Screw shaft as per rule *10.4"*

Diameter of Tunnel shaft as fitted *11.5"* Diameter of Crank shaft journals *12"* Diameter of Crank pin *12"* Size of Crank webs *83" x 23"*

Diameter of screw *16 feet* Pitch of screw *16 feet* No. of blades *4* State whether moveable *f* Total surface *75.5 sq ft*

No. of Feed pumps *2* Diameter of ditto *33"* Stroke *26"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *4.4"* Stroke *26"* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *2* Sizes of Pumps *3.4 x 3.2 x 5.7 addis* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *3 Suctions 2 of 2.5" to 1 of 3.3"* In Holds, &c. *2 of 2.5" to 1 of 3.3"* 1 of 3" to 1 of 3" hold well. 1 of 3" to 1 of 3" tunnel well.

No. of bilge injections *1* sizes *4"* Connected to condenser, or to circulating pump *C.P.* Is a separate donkey suction fitted in Engine room & size *Yes 5"*

Are 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 *Yes*

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 and all boiler mountings accessible at all times *Yes*

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel* Is the screw shaft tunnel watertight *Yes*

Is it fitted with a watertight door *Yes* worked from *top platform*

OILERS, &c.— (Letter for record *R.*) Total Heating Surface of Boilers *4542 sq ft*

No. and Description of Boilers *2 Cyl. multi. Single ended* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*

Date of test *2/6/92* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *67.5 sq ft* No. and Description of safety valves to

each boiler *Spring (2)* Area of each valve *8.3"* Pressure to which they are adjusted *165 lbs* Are they fitted

with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *13"* Mean diameter of boilers *15'-6"*

Length *11 ft.* Material of shell plates *Steel* Thickness *1 3/8"* Description of riveting: circum. seams *d. r. lap* long. seams *t. r. butt.*

Diameter of rivet holes in long. seams *1 3/8"* Pitch of rivets *8 3/8"* Lap of plates or width of butt straps *20" Straps.*

Percentage of strength of longitudinal joint rivets *83.5* Working pressure of shell by rules *160 lbs* Size of manhole in shell *16" x 13"*

Size of compensating ring *9 1/2" x 1 3/8"* No. and Description of Furnaces in each boiler *3. ribbed* Material *S.* Outside diameter *46 1/2"*

Length of plain part top *7.3"* bottom *4.6"* Thickness of plates crown *3 1/4"* bottom *3 1/2"* Description of longitudinal joint *Welded.* No. of strengthening rings *—*

Working pressure of furnace by the rules *163 lbs* Combustion chamber plates: Material *S.* Thickness: Sides *9/16"* Back *1/2"* Top *1/2"* Bottom *1"*

Pitch of stays to ditto: Sides *8 1/4" x 8"* Back *8 1/4" x 8 1/4"* Top *8 1/4" x 8 1/4"* stays are fitted with nuts or riveted heads *nuts.* Working pressure by rules *160 lbs.*

Material of stays *Iron* Diameter at smallest part *1 1/2"* Area supported by each stay *66 sq"* Working pressure by rules *160 lbs* End plates in steam space:

Material *S.* Thickness *1 1/2"* Pitch of stays *19 3/8" x 8 1/4"* How are stays secured *d. nuts* Working pressure by rules *160 lbs* Material of stays *S.*

Diameter at smallest part *2 3/32"* Area supported by each stay *348 sq"* Working pressure by rules *141 lbs* Material of Front plates at bottom *S.*

Thickness *3/32"* Material of Lower back plate *S.* Thickness *9/8"* Greatest pitch of stays *13"* Working pressure of plate by rules *149 lbs*

Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 3/8"* Material of tube plates *S.* Thickness: Front *3/4"* Back *2 1/2"* Mean pitch of stays *9 3/8"*

Pitch across wide water spaces *15"* Working pressures by rules *200 lbs* Girders to Chamber tops: Material *S.* Depth and

Thickness of girder at centre *1 1/2"* Length as per rule *33 1/2"* Distance apart *8 1/2"* Number and pitch of Stays in each *3 of 8 1/4"*

Working pressure by rules *164 lbs* Superheater or Steam chest; how connected to boiler *—* 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

— 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 3 cross tubes

Made at

Stockton

By whom made

Riley Bros.

When made

7/92

Where fixed

Stoke hole

Working pressure

90 lbs

tested by hydraulic pressure to

180 lbs

No. of Certificate

486

Fire grate area

20 sq

Description of safety valves

Wired Spring

No. of safety valves

1

Area of each

4.0 sq

Pressure to which they are adjusted

90 lbs

If fitted with easing gear

Yes

If steam from main boilers can

enter the donkey boiler

no

Diameter of donkey boiler

6 feet

Length

12 ft 6 in

Material of shell plates

Steel

Thickness

7/16 in

Description of riveting long seams

Vul. lap double

Diameter of rivet holes

7/16 in

Whether punched or drilled

punched

Pitch of rivets

2 1/2 in

Lap of plating

1 1/4 in

Per centage of strength of joint

Rivets 71.3

Plates 41.1

Thickness of shell crown plates

7/16 in

Radius of do.

5 ft

No. of Stays to do.

6

Dia. of stays

1 3/4 in

Diameter of furnace Top

4-10 in

Bottom

5-5 in

Length of furnace

4-4 in

Thickness of furnace plates

5/8 in

Description of

joint

Lap Single

Thickness of furnace crown plates

7/16 in

Stayed by

same as shell crown

Working pressure of shell by rules

92 lbs

Working pressure of furnace by rules

89.4 lbs

Diameter of uptake

15 in

Thickness of uptake plates

7/16 in

Thickness of water tubes

3/8 in

SPARE GEAR. State the articles supplied:—

1 set of connecting rod 1 of bottom end bolts & nuts.
 2 main bearing bolts & nuts. 1 set of coupling bolts & nuts. 1 set of feed.
 & bilge pump valves. 2 sets of crank pin bushes. 1 set of eccentric
 straps. propeller & shaft.

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED

Gleny Clark

Manufacturer.

of Improved Boilers

General Remarks

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

The machinery and boiler of this vessel have been constructed under special survey materials and workmanship good & efficient. In my opinion the machinery of this vessel is in good & safe working condition eligible for the notation in the Register Book of L.M.C. 10.

It is submitted that
 this vessel is eligible for
 THE REGISTER + L.M.C. 10-92
 27-10-92

Certificate (if required) to be sent to

The amount of Entry Fee..

£ 2 0 0

When applied for,

Special

£ 34 : 4

23.10.1892

Donkey Boiler Fee

£

When received,

Travelling Expenses (if any) £

£

29/10/92

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

Committee's Minute

FRI 28 OCT 1892

Assigned

MACHINERY CERTIFICATE
WRITTEN

+ L.M.C. 10, 92



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Foundation