

REPORT ON MACHINERY.

Port of SunderReceived at London Office SAT. 11 AUG 1895No. in Survey held at SunderDate, first Survey 21st Feb.Last Survey 20th Aug. 1895Reg. Book Luft.(Number of Visits 33)

11 on the

S.S. SardiniaGross 1118
Net 575When built 1896Master Wm SlaterBuilt at SunderBy whom built Goulay Bros & CoEngines made at SunderBy whom made Goulay Bros & Cowhen made 1896Boilers made at SunderBy whom made Goulay Bros & Cowhen made 1895Registered Horse Power 170Owners Lt Col R. Bull & CoPort belonging to LiverNom. Horse Power as per Section 28 169 = N.P.

ENGINES, &c.—

Description of Engines Triple ExpansionNo. of Cylinders 3Diameter of Cylinders 19.31.50 Length of Stroke 36 Revolutions per minute 80 Diameter of Screw shaft as per rule 9.24Diameter of Tunnel shaft as per rule 8.78 Diameter of Crank shaft journals 10 Diameter of Crank pin 10 1/2 Size of Crank webs 4 1/2Diameter of screw 13-0 Pitch of screw 15-0 No. of blades 4 State whether moveable No Total surface 48.2 sq ftNo. of Feed pumps 2 Diameter of ditto 3 Stroke 20 Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 3 Stroke 20 Can one be overhauled while the other is at work YesNo. of Donkey Engines Two Sizes of Pumps 5" & 3" hand No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Four 2" In Holds, &c. Four Hold two 2 1/4"No 2 hold two 2 1/4" No 3 hold two 2 1/4" Tunnel well one 2 1/4"No. of bilge injections One sizes 5 1/2 Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 3 1/2Are 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 NoneAre 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 Before being launched Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yes worked from Upper platform

OILERS, &c.—

(Letter for record 0)Total Heating Surface of Boilers 2806 sq ftNo. and Description of Boilers One Multitubular Horizontal Working Pressure 165 Tested by hydraulic pressure to 330Date of test 13/4/95 Can each boiler be worked separately Yes Area of fire grate in each boiler 92 sq ft No. and Description of safety valves toeach boiler Two spring Area of each valve 9.62 Pressure to which they are adjusted 165 lbs. Are they fittedwith easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 17-0Length 10-6 Material of shell plates steel Thickness 1 1/2 Description of riveting: circum. seams double rivet long. seams double rivetDiameter of rivet holes in long. seams 1 1/16 Pitch of rivets 10" Lap of plates or width of butt straps 22 1/2Per centages of strength of longitudinal joint 94.0 Working pressure of shell by rules 186 Size of manhole in shell 16x12Size of compensating ring 2x10 No. and Description of Furnaces in each boiler 4 Furness Material steel Outside diameter 4 7/8Length of plain part 9 1/16 Thickness of plates 9 1/16 Description of longitudinal joint Welded No. of strengthening rings —Working pressure of furnace by the rules 173 Combustion chamber plates: Material steel Thickness: Sides 9 1/16 Back 9 1/16 Top 9 1/16 Bottom 3 1/4Pitch of stays to ditto: Sides 4 1/2 Back 4 1/2 Top 8 If stays are fitted with nuts or riveted heads None Working pressure by rules 171 lbsMaterial of stays steel Diameter at smallest part 1 1/2 Area supported by each stay 62.0 Working pressure by rules 194 lbs End plates in steam space:Material steel Thickness 1 1/16 Pitch of stays 15 How are stays secured Single nut Working pressure by rules 174 lbs Material of stays IronDiameter at smallest part 3 1/8 Area supported by each stay 225.0 Working pressure by rules 185.5 Material of Front plates at bottom steelThickness 3/4 Material of Lower back plate steel Thickness 3/4 Greatest pitch of stays 12 Working pressure of plate by rules 171Diameter of tubes 3 Pitch of tubes 4 1/2 Material of tube plates steel Thickness: Front 3/4 Back 3/8 Mean pitch of stays 9.6Pitch across wide water spaces 14 1/2 Working pressures by rules 216 Girders to Chamber tops: Material Iron Depth andthickness of girder at centre 9x1 3/4 Length as per rule 33 3/4 Distance apart 8 Number and pitch of Stays in each 3-4 3/4Working pressure by rules 182 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler workedseparately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetholes — 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 —

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DUN 123

DONKEY BOILER— Description *Horizontal multibular (2 Plan furnace)*
Made at *Dundee* By whom made *Gowley Bros & Co* When made *1894* Where fixed *stoke hold*
Working pressure *85* tested by hydraulic pressure to *170* No. of Certificate *685* Fire grate area *22* Description of safety valves *spring*
No. of safety valves *2* Area of each *4.91* Pressure to which they are adjusted *85 lbs.* If fitted with easing gear *yes* If steam from main boilers
enter the donkey boiler *no* Diameter of donkey boiler *9'-0"* Length *8'-0"* Material of shell plates *steel* Thickness *7/16*
Description of riveting long. seams *Double riveted lap* Diameter of rivet holes *3/32* Whether punched or drilled *drilled* Pitch of rivets *3*
Lap of plating *6 1/8"* Per centage of strength of joint Rivets *72.4* Thickness of *end* *top* plates *13/16* Radius of do. — No. of Stays to do. —
Dia. of stays. *1 1/4"* Diameter of furnace *Top 34 Bottom* Length of furnace *4'-0"* Thickness of furnace plates *1/2"* Description
joint *Double* Thickness of furnace crown plates *1/2"* Stayed by *—* Working pressure of shell by rules *86 1/2*
Working pressure of furnace by rules *94.25* Diameter of uptake *—* Thickness of uptake plates *—* Thickness of water tubes *—*

SPARE GEAR. State the articles supplied:—

as per rule

The foregoing is a correct description

Gowley Brothers Manufacturer

General Remarks (State quality of workmanship, opinions as to class, &c. *The workmanship is good.*

The machinery and boilers of this vessel have been constructed under special survey, in accordance with the Rules, the plans forwarded herewith, and the Secretary's letters dated 21st Jan. and 9th Feb. 1895. On completion, the safety valves were adjusted, and the engines tried under steam with satisfactory results.

The machinery is therefore in our opinion eligible to be classed and to have the notation of \pm L M C 8,95 recorded in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD \pm L M C 8,95.

H.S.

26.8.95.

MACHINERY CERTIFICATE
WRITTEN

Certificate (if required) to be sent to *Dundee Office.*

The amount of Entry Fee.. £ *2 : 0 :* When applied for,
Special £ *25 : 7 :* *22nd Aug. 1895*
Donkey Boiler Fee £ *✓* : : When received,
Travelling Expenses (if any) £ *✓* : : *23rd Aug. 1895*

TUES. 27 AUG 1895

Committee's Minute

Assigned

+ L M C 8,95

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

*** These parts

Signal Letters

Official Number

10491

No., Date, and I

Whether British or Foreign Built.

British

Number of Deck

Number of Mast

Rigged

Stern

Build

Galleries

Head

Framework and vessel

Number of Bulk

Number of water and their capacity

Total to quarter at side amidships

No. of Engines

Desc

En

bon

Three

Bo

Number

Iron or Steel

Pressure when

GR

Under Tonnage D

Closed-in spaces at

Space or spaces

Poop

Forecastle

Round House

Other closed-in

Sec. 78 of a

Gross T

Deductions, as per

Register

Name of M

No. of Owners

Name, Residence,

Wm. W

James bur

Dated 20 Au

W B & L (439w)—41262-1



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