

REPORT ON MACHINERY.

Port of *Sunderland*

WED. 15 MAR 1893

No. in Survey held at *Sunderland*Date, first Survey *21st Jan'y*Last Survey *9th March 1893*

Reg. Book.

on the *S.S. "Sibun"*

Received at London Office

(Number of Visits *29*)Tons { Gross *1495*Net *1137*When built *1893*Master *W. Norris* Built at *Sunderland* By whom built *J. Blumner & Co.*Engines made at *Sunderland* By whom made *George Clark (Ld)*when made *1893*Boilers made at *Sunderland* By whom made *George Clark (Ld)*when made *1893*Registered Horse Power *200*Owners *The Sibun S.S. Co*Port belonging to *London*Nom. Horse Power as per Section 28 *220*

ENGINES, &c.— Description of Engines *Triple compound* No. of Cylinders *3*

Diameter of Cylinders *22, 36 & 59"* Length of Stroke *39"* Revolutions per minute *40* Diameter of Screw shaft *as per rule 10 5/16*

Diameter of Tunnel shaft *as per rule 9 1/16* Diameter of Crank shaft journals *11 1/8"* Diameter of Crank pin *11 1/8"* Size of Crank webs *22" x 4 1/8"*

Diameter of screw *15-0"* Pitch of screw *15-1"* No. of blades *4* State whether moveable *not* Total surface *75 sq*

No. of Feed pumps *2* Diameter of ditto *3"* Stroke *23"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* Diameter of ditto *4 1/4"* Stroke *23"* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *2* Sizes of Pumps *8" x 10" & 3 1/2" x 5 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *three 2 1/2" diam. After tunnel well 2 1/2" Holds, &c. For hold two 2 1/4" after hold two 2 1/4"*

For tank centre 2 1/2" wings 2 1/2" Engine room tank two 2 1/2" after tank 2 1/2" wings 2 1/2" A.W. 2"

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, 4"*

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 *9th March* Is the screw shaft tunnel watertight *yes*

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

BOILERS, &c.— (Letter for record *R*) Total Heating Surface of Boilers *3346 sq*

No. and Description of Boilers *two ordinary marine type* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*

Date of test *13-1-93* Can each boiler be worked separately *yes* Area of fire grate in each boiler *48 sq* No. and Description of safety valves to each boiler *two direct spring* Area of each valve *4 sq* Pressure to which they are adjusted *160 lbs* Are they fitted with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *20"* Mean diameter of boilers *14-0*

Length *10-0"* Material of shell plates *Steel* Thickness *1 1/4"* Description of riveting: circum. seams *double riv'd lap* Long. seams *triple r. d. b. s.*

Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8 5/16"* Length of plates or width of butt straps *19 straps*

Per centages of strength of longitudinal joint rivets *86%* Working pressure of shell by rules *164 lbs* Size of manhole in shell *16" x 13"*

Size of compensating ring *8 3/4" x 15 1/16"* No. and Description of Furnaces in each boiler *3 plain* Material *Steel* Outside diameter *3'-3"*

Length of plain part *top 6 1/4" bottom 6 1/4"* Thickness of plates *top 2 3/4" bottom 3 1/2"* Description of longitudinal joint *welded* No. of strengthening rings *none*

Working pressure of furnace by the rules *162 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *1 1/2" x 9 1/16"* Top *5/8"* Bottom *5/8"*

Pitch of stays to ditto: Sides *9" x 8 1/2"* Back *8 1/2" x 8"* Top *9 1/2" x 9 1/8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *162 lbs*

Material of stays *Iron* Diameter at smallest part *1 1/2"* Area supported by each stay *820 sq* Working pressure by rules *203* End plates in steam space:

Material *Steel* Thickness *1 3/16"* Pitch of stays *20 3/8" x 15 1/8"* How are stays secured *nuts* Working pressure by rules *160 lbs* Material of stays *Steel*

Diameter at smallest part *2 3/4"* Area supported by each stay *320 sq* Working pressure by rules *140 lbs* Material of Front plates at bottom *Steel*

Thickness *1 1/16"* Material of Lower back plate *Steel* Thickness *5/8"* Greatest pitch of stays *14"* Working pressure of plate by rules *173*

Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *1 3/16"* Mean pitch of stays *9 1/2"*

Pitch across wide water spaces *14 1/2"* Working pressures by rules *160 lbs* with *ablating plate* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *8 1/2" x 3" x 2* Length as per rule *32"* Distance apart *9 1/8"* Number and pitch of Stays in each *two stays 9 1/2" x 9"*

Working pressure by rules *160 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 —

Stays — 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 *Meredith's patent*
 Made at *Stockton* By whom made *Riley Bros* When made *17-3-93* Where fixed *Stokehold*
 Working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate *606* Fire grate area *28 sq* Description of safety valves *direct spring*
 No. of safety valves *2* Area of each *4.07* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *6-9"* Length *14-6"* Material of shell plates *Steel* Thickness *1/2"*
 Description of riveting long. seams *lap double riv* Diameter of rivet holes *13/16"* Whether punched or drilled *punched* Pitch of rivets *2 13/16"*
 Lap of plating *4 1/4"* Per centage of strength of joint *71.7%* Thickness of shell crown plates *1/2"* Radius of do. *hemispherical* to do. *do.*
 Dia. of stays. *do.* Diameter of furnace Top *4-6"* Bottom *4-10"* Length of furnace *2-7 1/2"* Thickness of furnace plates *5/8"* Description of joint *lap single* Thickness of furnace crown plates *9/16"* Stayed by *hemispherical* Working pressure of shell by rules *84 lbs*
 Working pressure of furnace by rules *84 lbs* Diameter of tubes *3"* Thickness of tube plates *9/16"* Thickness of water plates *9/16"* Top *1/2"*

SPARE GEAR. State the articles supplied: *Top & bottom end connecting rod bolts & nuts*
two main bearing bolts & nuts, one set of coupling bolts, feed & bilge pump valves, bolts, nuts & iron, propeller.

The foregoing is a correct description,
FOR GEORGE CLARK LIMITED.
George Clark Manufacturer of main engines & boilers.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this Vessel has been constructed under spec survey. the material & workmanship are good & efficient and the engines when tried under steam, worked satisfactorily. In my opinion the machinery of this Vessel is in good order & safe working condition and eligible for the notification in the Register Book of L.M.C. 3-93.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 3 93
20/3-3-93 -

Certificate (if required) to be sent to
 The amount of Entry Fee. . . £ *2* : : When applied for, *10 March 93*
 Special £ *31* : :
 Donkey Boiler Fee £ : : When received, *14 March 93*
 Travelling Expenses (if any) £ : :
St H

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

Committee's Minute **FRI 17 MAR 1893**
 Assigned *+ L.M.C. 3, 93*
 WRITTEN.