

Port of *Sunderland*Received at London Office
19 MAY 1908
24 APR 1908No. in Survey held at *Sunderland*
Reg. Book. on the *S. S. Tropeiro*Date, first Survey *26th Oct 1904* Last Survey *14 April 1908*(Number of Visits *33*)

Master *Sunderland* Built at *Sunder* By whom built *Sunder Shipbuilding Co* When built *1905*
 Engines made at *Sunderland* By whom made *North Eastern Marine Engineering Co* when made *1905*
 Boilers made at *Sunderland* By whom made *North Eastern Marine Engineering Co* when made *1905*

Registered Horse Power *141* Owners *Sunder* Port belonging to *Sunder*
 Nom. Horse Power as per Section 28 *141* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

ENGINES, &c.—Description of Engines *Inverted triple Expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *17.25.46* Length of Stroke *30* Revs. per minute *88* Dia. of Screw shaft *as per rule 9.23* Material of *Iron*
 as fitted *9.2* screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube *yes* Is the after end of the liner made water tight

in the propeller boss *yes* If the liner is in more than one length are the joints burned *yes* If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *yes* If two

liners are fitted, is the shaft lapped or protected between the liners *yes* Length of stern bush *3.3*

Dia. of Tunnel shaft *as per rule 8.37* Dia. of Crank shaft journals *as per rule 8.79* Dia. of Crank pin *8.75* Size of Crank webs *5.25 x 13.3* Dia. of thrust shaft under

collars *8.75* Dia. of screw *11.0* Pitch of Screw *13.6* No. of Blades *4* State whether moveable *no* Total surface *42.5*

No. of Feed pumps *2* Diameter of ditto *2.5* Stroke *15* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* Diameter of ditto *3* Stroke *15* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *Two* Sizes of Pumps *6 x 7 x 9* *5.25 x 3.25 x 5.25* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *2 of 2* *1 of 2* In Holds, &c. *No. 1 = 1 @ 2.5; No. 2 = 1 @ 2.5*

off hold 1 @ 2.5; tunnel one @ 2.5

No. of Bilge Injections *one* size *3.25* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *2.5*

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 hulkers *none* How are they protected *yes*

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*

Dates of examination of completion of fitting of Sea Connections *17.3.08* of Stern Tube *17.3.08* Screw shaft and Propeller *17.3.08*

Is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *top platform*

BOILERS, &c.—(Letter for record *5*) Manufacturers of Steel *Messrs. Spencer & Sons*

Total Heating Surface of Boilers *2373* Is Forced Draft fitted *no* No. and Description of Boilers *one, S.E. Cylindrical Bulb*

Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *9.12.07* No. of Certificate *2678*

Can each boiler be worked separately *yes* Area of fire grate in each boiler *63.8* No. and Description of Safety Valves to

each boiler *2 spring* Area of each valve *7.07* Pressure to which they are adjusted *186 lbs* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *18* Mean dia. of boilers *15.35* Length *10.63* Material of shell plates *steel*

Thickness *13/16* Range of tensile strength *28.5/32* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *d & v lap*

long. seams *End 2 S.* Diameter of rivet holes in long. seams *1.32* Pitch of rivets *9.5* Lap of plates or width of butt straps *19.4*

Per centages of strength of longitudinal joint rivets *86.7* Working pressure of shell by rules *180.1* Size of manhole in shell *16 x 12*

Size of compensating ring *flanged* No. and Description of Furnaces in each boiler *3 daylight* Material *steel* Outside diameter *47.5*

Length of plain part *top* Thickness of plates *bottom* *9.16* Description of longitudinal joint *weld* No. of strengthening rings *yes*

Working pressure of furnace by the rules *185 lbs* Combustion chamber plates: Material *steel* Thickness: Sides *3/4* Back *2.5* Top *3/4* Bottom *7/8*

Pitch of stays to ditto: Sides *8.25 x 12* Back *10.25 x 12* Top *8.25 x 12* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *180.1*

Material of stays *steel* Diameter at smallest part *2.46* Area supported by each stay *116.7* Working pressure by rules *187* End plates in steam space:

Material *steel* Thickness *1.3* Pitch of stays *22.5 x 21.5* How are stays secured *d & w* Working pressure by rules *182.7* Material of stays *steel*

Diameter at smallest part *8.48* Area supported by each stay *490* Working pressure by rules *180.3* Material of Front plates at bottom *steel*

Thickness *13/16* Material of Lower back plate *steel* Thickness *15/16* Greatest pitch of stays *14.5 x 11.5* Working pressure of plate by rules *180.8*

Diameter of tubes *3.4* Pitch of tubes *4.75 x 4.5* Material of tube plates *steel* Thickness: Front *13/16* Back *13/16* Mean pitch of stays *10.28*

Pitch across wide water spaces *14.5* Working pressures by rules *184.9* Girders to Chamber tops: Material *steel* Depth and

thickness of girder at centre *8 x 2* Length as per rule *29.34* Distance apart *12* Number and pitch of stays in each *2 - 8.25*

Working pressure by rules *183 lbs* Superheater or Steam chest; how connected to boiler *yes* Can the superheater be shut off and the boiler worked

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

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

If stiffened with rings *yes* Distance between rings *yes* Working pressure by rules *yes* End plates: Thickness *yes* How stayed *yes*

Working pressure of end plates *yes* Area of safety valves to superheater *yes* Are they fitted with easing gear *yes*

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 Top end, 2 bottom end, 2 Main bearing & set of coupling bolts, one block ring for R piston fitted with 3 ramotham springs, set of feed and bilge pump valves, 1 propeller, bolts & nuts assorted, and iron of sizes

The foregoing is a correct description,

Manufacturer.

NORTH EASTERN MARINE ENGINEERING CO. LTD.

Walter Beattie & Co.

Dates of Survey while building

| | |
|------------------------------------|---|
| During progress of work in shops - | 1904: Oct 26, Nov 13, 14, 20, 22, 25, 27, 30, Dec: 2, 9, 13, 19, 20, 24, 30, Jan: 3, 9, 13, 14, 20, 21, 24, 28, |
| During erection on board vessel - | Feb 4, 11, 2, Apr 2, 4, 6, 8, 10, 13, 14, |
| Total No. of visits | 33. |

Is the approved plan of main boiler forwarded herewith ☒ Yes

Dates of Examination of principal parts—Cylinders 27.12.07 Slides 13.1.08 Covers 19.12.07 Pistons 30.12.07 Rods 13.1.08

Connecting rods 13.1.08 Crank shaft 13.1.08 Thrust shaft 13.11.07 Tunnel shafts 20.11.07 Screw shaft 24.1.08 Propeller 13.1.08

Stern tube 4.2.08 Steam pipes tested 6.4.08 Engine and boiler seatings ~~while building~~ Engines holding down bolts 6.4.08

Completion of pumping arrangements 10.4.08 Boilers fixed 8.4.08 Engines tried under steam 10.4.08

Main boiler safety valves adjusted 10.4.08 Thickness of adjusting washers F. Valve $\frac{5}{16}$; A Valve $\frac{9}{32}$

Material of Crank shaft steel Identification Mark on Do. 441B Material of Thrust shaft steel Identification Mark on Do. 426A1

Material of Tunnel shafts iron Identification Marks on Do. 440B Material of Screw shafts iron Identification Marks on Do. 443B

Material of Steam Pipes Copper Test pressure 140 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been constructed under Special Survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam and worked satisfactorily

We beg to recommend that this vessel is eligible in our opinion to have the record L.M.C 5.08 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 5.08. ELEC. LIGHT.

The amount of Entry Fee £ 2 : 0 : 0 When applied for, 23.4.08

Special .. £ 21 : 3 : 0

Donkey Boiler Fee .. £ : : : When received, at 4/5/08 per ton

Travelling Expenses (if any) £ : : :

Committee's Minute

FRI. 22 MAY 1908

Assigned

L.M.C 5.08

MACHINERY CERTIFICATE WRITTEN



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Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

Sunderland.