

REPORT ON MACHINERY.

No. 22127

Port of *Sunderland*

Received at London Office 14th JAN 1905

No. in Survey held at *Sunderland*
Reg. Book.Date, first Survey *24th June '04* Last Survey *14th Jan '05*(Number of Visits *36*)

on the

*S. S. Sweethope*Master *A. F. W. Rasmussen* Built at *Sunderland* By whom built *Sunderland S. B. Co*Tons { Gross *2715*
Net *1708*
When built *1904-5*Engines made at *Sunderland* By whom made *North Eastern Marine Engineering Co* when made *1904-5*Boilers made at *Sunderland* By whom made *North Eastern Marine Engineering Co* when made *1904-5*Registered Horse Power Owners *Thos. Bell* Port belonging to *Newcastle*Nom. Horse Power as per Section 28 *262* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *No*ENGINES, &c.—Description of Engines *Inverted triple expansion*No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *23, 38, 62* Length of Stroke *42* Revs. per minute *67* Dia. of Screw shaft *13.34* Material of *Iron*Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No* Is the after end of the liner made water tightin the propeller boss *Yes* If the liner is in more than one length are the joints burned *✓* If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *No* If twoliners are fitted, is the shaft lapped or protected between the liners *✓ No* Length of stern bush *4' 6"*Dia. of Tunnel shaft *11.037* Dia. of Crank shaft journals *11.588* Dia. of Crank pin *7.150* Size of Crank webs *7 1/2 x 14* Dia. of thrust shaft undercollars *12* Dia. of screw *16.0* Pitch of screw *16.6* No. of blades *4* State whether moveable *No* Total surface *82*No. of Feed pumps *2* Diameter of ditto *3* Stroke *21* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *4* Stroke *21* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *2* Sizes of Pumps *7 x 9 x 9, 6 x 4 x 6* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *3 of 3 1/2* In Holds, &c. *2 in each hold 3, one in aft**hold & after well of 2 1/2*No. of bilge injections *one* sizes *4* Connected to condenser, or to circulating pump *Pump* Is a separate donkey suction fitted in Engine room & size *Yes 3 1/2*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 *✓*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* Is the screw shaft tunnel watertight *Yes*Is it fitted with a watertight door *Yes* worked from *Upper platform*BOILERS, &c.— (Letter for record *5*) Total Heating Surface of Boilers *4124* Is forced draft fitted *No*No. and Description of Boilers *2 single ended, cylindrical, built* Working Pressure *165 lb* Tested by hydraulic pressure to *320 lb*Date of test *25.11.04* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *55.75* No. and Description of safety valves toeach boiler *2 spring* Area of each valve *7.06* Pressure to which they are adjusted *165 for 160 lb* Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *18"* Mean dia. of boilers *14.9 3/8* Length *10' 6"* Material of shell plates *steel*Thickness *1 1/16* Range of tensile strength *28 3/32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *3 riv. lap* long. seams *T. riv. 3. butt trap*Diameter of rivet holes in long. seams *1 1/2* Pitch of rivets *8 1/2* Lap of plates or width of butt straps *16 3/4*Per centages of strength of longitudinal joint *86.3* Working pressure of shell by rules *162.1* Size of manhole in shell *16 x 12*Size of compensating ring *flanged* No. and Description of Furnaces in each boiler *3-plain* Material *steel* Outside diameter *3' 6"*Length of plain part *top 7' 0 3/4, bottom 7' 0 1/4* Thickness of plates *top 3/4, bottom 1/4* Description of longitudinal joint *weld* No. of strengthening rings *✓*Working pressure of furnace by the rules *167.3* Combustion chamber plates: Material *steel* Thickness: Sides *3/4* Back *3/4* Top *3/4* Bottom *15/16*Pitch of stays to ditto: Sides *13 x 8 1/2* Back *11 1/4 x 10 1/2* Top *13 x 8 1/2* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *161.1*Material of stays *Steel* Diameter at smallest part *2.1* Area supported by each stay *118.125* Working pressure by rules *160* End plates in steam space:Material *steel* Thickness *1 3/32* Pitch of stays *22 1/2 x 21 1/2* How are stays secured *3 nuts & washers* Working pressure by rules *160.5* Material of stays *steel*Diameter at smallest part *6.48* Area supported by each stay *483.75* Working pressure by rules *175.2* Material of Front plates at bottom *steel*Thickness *3/4* Material of Lower back plate *steel* Thickness *2 1/32* Greatest pitch of stays *14 x 10 1/2* Working pressure of plate by rules *160.6*Diameter of tubes *3 1/4* Pitch of tubes *4 3/4 x 4 3/4* Material of tube plates *steel* Thickness: Front *3/4* Back *3/4* Mean pitch of stays *9 1/2 x 9 1/2*Pitch across wide water spaces *14 1/2* Working pressures by rules *192.5 lb* Girders to Chamber tops: Material *steel* Depth andthickness of girder at centre *8 x 2* Length as per rule *28 1/2* Distance apart *13* Number and pitch of Stays in each *2 - 8 1/2*Working pressure by rules *171* Superheater or Steam chest; how connected to boiler *✓* 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 *✓*

DONKEY BOILER— No. *one* Description *Single ended cylindrical built up, 2 plain furnaces,*
 Made at *Stockton* By whom made *Riley Bros. L^{td}* When made *1904* Where fixed *on deck*
 Working pressure *24 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *3343* Fire grate area *28.3* Description of safety valves *spring*
 No. of safety valves *2* Area of each *5.94* Pressure to which they are adjusted *84 lbs* If fitted with easing gear *yes* If steam from main boilers can
 enter the donkey boiler *no* Dia. of donkey boiler *9' 6"* Length *9' 0"* Material of shell plates *steel* Thickness *17/32"* Range of tensile
 strength *27/32* Descrip. of riveting long. seams *Lap double riveted* Dia. of rivet holes *15/16* Whether punched or drilled *drilled* Pitch of rivets *4 1/2"*
 Lap of plating *6 1/2"* Per centage of strength of joint *85* Rivets *20* Thickness of shell crown plates *3/4"* Radius of do. *1* No. of Stays to do. *14*
 Dia. of stays. *1 1/2"* Diameter of furnace Top *2' 10"* Bottom *1' 9"* Length of furnace *5' 10"* Thickness of furnace plates *15/32"* Description of
 joint *welded* Thickness of furnace crown plates *1/2"* Stayed by *screwed stays* Working pressure of shell by rules *85.8 lb.*
 Working pressure of furnace by rules *84 lbs* Diameter of uptake *3 1/4"* Thickness of uptake plates *F 3/4" B 9/16"* Thickness of water tubes *5/16"*

SPARE GEAR. State the articles supplied:— *2 Top end, 2 bottom end, 2 main bearing & 1 set of coupling*
bolts, set of feed & bilge pump Valve, 1 Propeller, 1 Propeller shaft, Bolts & nuts suited
& Iron of sizes, 12 Boiler tubes, 12 Condenser tubes

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.
Walter Bealby

Dates { During progress of work in shops— 1904:— June 24, Aug. 25, 30 Sept. 2, 9, 13, 15, 19, 23, 27, 30. Oct. 4, 5, 11, 12,
 of Survey { During erection on board vessel— 19. 24, 27, 28, Nov. 1, 3, 7, 9, 14, 16, 22, 24, 25, 28, 30. Dec. 3, 6, 13, 20. — 05:— Jan 13, 14,
 while building { Total No. of visits 36
 Is the approved plan of main boiler forwarded herewith *Yes*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery for 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 ahead and astern and worked well, the steam
pipes have been tested to twice the working pressure and proved
satisfactory, the Safety Valves adjusted under steam and worked
well

I beg to recommend that this vessel, in my
*opinion, is eligible to have the record **L.M.C. 1.05** in the Register*
Book

It is submitted that
this vessel is eligible for
THE RECORD **L.M.C. 1.05.**

Wms
26.1.05
26.1.05

The amount of Entry Fee.. £ *2* : : When applied for, *25.1.19.05*
 Special £ *38* : *2* : : *3.2.05*
 Donkey Boiler Fee £ : : : When received, *2/2/05*
 Travelling Expenses (if any) £ : : : *19.05*

R. R. Coomber,
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 27 JAN 1905

Assigned

+ L.M.C. 1.05

WRITTEN.



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