

# REPORT ON MACHINERY.

No. 22127

Port of Sunderland

Received at London Office **THUR. 26 JAN 1905**

No. in Survey held at Sunderland

Date, first Survey 24th June '04 Last Survey 14th Jan 1905

Reg. Book.

(Number of Visits 36)

on the S.S. Sweethope

Tons { Gross 2715  
Net 1708  
When built 1904-5

Master A. F. W. Rasmussen Built at Sunderland By whom built Sunderland S. B. Co

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 as per rule 13.34 Material of screw shaft 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 tight in 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 part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No If two liners are fitted, is the shaft lapped or protected between the liners ✓ No Length of stern bush 4.6  
 Dia. of Tunnel shaft as per rule 11.037 Dia. of Crank shaft journals as per rule 11.500 Dia. of Crank pin 11.50 Size of Crank webs 7 1/2 x 14 Dia. of thrust shaft under collars 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 5 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 pumps  
 In Engine Room 3 of 3" 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 Mult 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 to each 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 44.9 3/8 Length 10.6 Material of shell plates steel  
 Thickness 1 1/16 Range of tensile strength 20 3/32 Are they welded or flanged No Descrip. of riveting: cir. seams 2 riv. lap long. seams T. riv. 3 butt trap  
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 8 1/16" Lap of plates or width of butt straps 16 3/4"  
 Per centages of strength of longitudinal joint rivets 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 7/16" Thickness of plates bottom 3/4" 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 1 3/4 x 8 1/2" Back 1 1/4 x 10 1/2" Top 1 3/4 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 2 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 27/32" Greatest pitch of stays 14 x 10 1/2" Working pressure of plate by rules 160.6 lb  
 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 and thickness 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 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 ✓  
 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 ✓

2000-5-03-Copyable Ink.

Lloyd's Register Foundation W505-0016

**DONKEY BOILER**— No. *one* Description *single ended cylindrical built up, 2 plain furnaces,*  
 Made at *Stockton* By whom made *Riley Bros. L<sup>ds</sup>* When made *1904* Where fixed *on deck*  
 Working pressure *84 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 tube 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 *80* Rivets *20* Thickness of shell crown plates *3/16"* Radius of do. *✓* No. of Stays to do. *44*  
 Dia. of stays. *1 1/8"* Diameter of furnace Top *2' 10"* Bottom *1' 9"* Length of furnace *5' 10 1/2"* 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 lbs*  
 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 Swathway*

Dates of Survey while building  
 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.  
 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.  
 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*  
*RS* 26.1.05  
 26.1.05

The amount of Entry Fee.. £ *2* : :  
 Special .. .. £ *38* : *2* :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, *25.1.1905*  
 When received, *2/2/05*

*W.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*



Certificate (if required) to be sent to

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

WRITTEN.