

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office WED. 27 MAY 1902

No. in Survey held at Sunderland & Blyth Date, first Survey Dec 23rd '01 Last Survey 24th Oct 1902
Reg. Book. (Number of Visits 48)

on the Screw Steamer

Tons { Gross 1836.09
Net 1166.15

Master X Built at Blyth By whom built Blyth S. B. Co. (112) When built 1902

Engines made at Sunderland By whom made North Eastern M. E. Coy. Ld. (1410) when made 1902

Boilers made at Sunderland By whom made North Eastern M. E. Coy. Ld. when made 1902

Registered Horse Power Owners Lombard S.S. Co. Port belonging to

Nom. Horse Power as per Section 28 209 Is Refrigerating Machinery fitted no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 20 1/2 - 33 - 54 Length of Stroke 36 Revs. per minute 70 Dia. of Screw shaft as per rule 11.33 as fitted 11.78 Lgth. of stern bush 4'-0"

Dia. of Tunnel shaft as per rule 9.8 as fitted 10" Dia. of Crank shaft journals as per rule 10.44 as fitted 10.44 Dia. of Crank pin 10 1/2 Size of Crank webs 16x6 1/2 Dia. of thrust shaft under

collars 10 1/2 Dia. of screw 14.3 Pitch of screw 14-3" No. of blades 4 State whether moveable no Total surface 61 1/4

No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 1'-9" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 Stroke 1'-9" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 8x9x10 & 5 1/4 x 3 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 7 3 In Holds, &c. Two of 2 1/4 & one 3" in each hold

No. of bilge injections 1 sizes 3 1/2 Connected to condenser to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes 3"

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 ruvernel Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from top platform

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 3586 1/4 Is forced draft fitted no

No. and Description of Boilers 2 Cylindrical Multitubular S. E. Working Pressure 170 lb Tested by hydraulic pressure to 340 lb

Date of test 15-9-02 Can each boiler be worked separately Yes Area of fire grate in each boiler 57 1/4 No. and Description of safety valves to

each boiler 2 direct spring Area of each valve 5.94 Pressure to which they are adjusted 175 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 13-10 2/3 Length 10'-0" Material of shell plates Steel

Thickness 1 3/32 Range of tensile strength 39/32 Are they welded or flanged no Descrip. of riveting: cir. seams J.R. Cab long. seams J.R. DB Shop

Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 7/8" Lap of plates or width of butt straps 16 3/4"

Per centages of strength of longitudinal joint rivets 85.8 Working pressure of shell by rules 180.6 lb Size of manhole in End 16" x 12" plate 85.7

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 4'-8" Thickness of plates crown 49 Description of longitudinal joint Welded No. of strengthening rings ✓ bottom 64

Working pressure of furnace by the rules 172.3 Combustion chamber plates: Material Steel Thickness: Sides 3/32 Back 1/16 Top 3/32 Bottom 1/16

Pitch of stays to ditto: Sides 8 7/8 x 9 1/4 Back 10 1/4 x 9 1/8 Top 8 7/8 x 8 7/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 177 lb

Material of stays Steel Diameter at smallest part 1.49 Area supported by each stay 93.5 Working pressure by rules 172.3 lb End plates in steam space:

Material Steel Thickness 1 7/32 Pitch of stays 9 7/8 x 17 How are stays secured 8 1/2 x 20 Working pressure by rules 170.5 lb Material of stays Steel

Diameter at smallest part 6.1 Area supported by each stay 329 Working pressure by rules 185 lb Material of Front plates at bottom Steel

Thickness 13/16 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 14 1/2 x 9 1/8 Working pressure of plate by rules 180 lb

Diameter of tubes 3 1/4 Pitch of tubes 4 7/16 x 4 7/16 Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 8 7/8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 315 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 6 1/4 x 2 7/8 Length as per rule 28" Distance apart 8 1/8" Number and pitch of Stays in each 2 7/8 7/8"

Working pressure by rules 180 lb 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

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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