

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office 10 OCT 1902

No. in Survey held at Sunderland Date, first Survey 21st March, 01 Last Survey 12th Sept. 1902
 Reg. Book. on the Steam Screw Steamer "King Edward" (Number of Visits 18)
 Master Built at North Shields By whom built Smith Dock Coy. Ltd (691) When built 1902
 Engines made at Sunderland By whom made MacColl & Pollock (49) when made 1902
 Boilers made at Sunderland By whom made MacColl & Pollock (49) when made 1902
 Registered Horse Power 41 Owners Dodds Steam Fishing Co Port belonging to North Shields
 Nom. Horse Power as per Section 28 41 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12" 20" 32" Length of Stroke 23 Revs. per minute 120 Dia. of Screw shaft 7.17 Lgth. of stern bush 2-6 3/4
 as per rule 6.09 as per rule 6.39 as fitted 7 5/8
 Dia. of Tunnel shaft 7 Dia. of Crank shaft journals 7 Dia. of Crank pin 7 Size of Crank webs 11x4 1/2 Dia. of thrust shaft under collars 7
 Dia. of screw 8' 4" Pitch of screw 10' 6" No. of blades 4 State whether moceable no Total surface 28.5 sq ft
 No. of Feed pumps 1 Diameter of ditto 2 1/4 Stroke 1 1/2 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 1 Diameter of ditto 2 1/4 Stroke 4 1/2 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one Sizes of Pumps 5 1/4 x 3 1/2 x 5 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 of 2" one 2 1/2 g sector - connected In Holds, &c. two 2"
 No. of bilge injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump CP Is a separate donkey suction fitted in Engine room & size 4 1/2 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 Valves
 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 Slush & Wash Suctions How are they protected forward Bulk Ceiling
 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 examined Is the screw shaft tunnel watertight ✓
 Is it fitted with a watertight door worked from

BOILERS, &c.— (Letter for record 3) Total Heating Surface of Boilers 1352 sq ft Is forced draft fitted no
 No. and Description of Boilers one S.E. G.L. Multitubular Working Pressure 180 lb Tested by hydraulic pressure to 360 lb
 Date of test 8.9.02 Can each boiler be worked separately ✓ Area of fire grate in each boiler 35.2 sq ft No. and Description of safety valves to each boiler two direct spring Area of each valve 3.97 sq in Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 11 Mean dia. of boilers 18' 0" Length 10' 0" Material of shell plates steel
 Thickness 1 Range of tensile strength 29 1/2-32 Are they welded or flanged no Descrip. of riveting: cir. seams D. R. Lap long. seams M. R. D. B
 Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 7.5 1/2 Inp. of plates or width of butt straps 13 7/8
 Per centages of strength of longitudinal joint rivets 87.6 plate 85.8 Working pressure of shell by rules 185 lb Size of manhole in shell 16 x 14
 Size of compensating ring 26 x 24 x 1 No. and Description of Furnaces in each boiler 2 Furnaces Material Steel Outside diameter 42 1/2
 Length of plain part top 14" bottom 14" Thickness of plates 14" bottom 12" Description of longitudinal joint weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 189 lb Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 13/16
 Pitch of stays to ditto: Sides 9 1/4 x 6 1/2 Back 7 1/4 x 7 1/4 Top 8 If stays are fitted with nuts or riveted heads Nuts C. Ch Working pressure by rules 184 lb
 Material of stays Steel Diameter at smallest part 1.5 Area supported by each stay 8 1/4 x 8 Working pressure by rules 180 lb End plates in steam space: Material Steel Thickness 31/32 Pitch of stays 17 7/8 x 12 How are stays secured D. R. x 20 Working pressure by rules 185 lb Material of stays Steel
 Diameter at smallest part 4.11 Area supported by each stay 17 7/8 x 12 Working pressure by rules 191 lb Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 12 1/4 Working pressure of plate by rules 185 lb
 Diameter of tubes 3 1/2 Pitch of tubes 4 7/8 x 4 3/4 Material of tube plates Steel Thickness: Front 7/8 Back 7/8 Mean pitch of stays 13 7/8 x 9 1/2
 Pitch across wide water spaces 14 1/2 Working pressures by rules 240 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 1/4 x 3 1/4 x 2 Length as per rule 21 1/4 Distance apart 8 1/4 Number and pitch of Stays in each one of 8" pitch
 Working pressure by rules 182 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
 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. _____ Description *None*

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

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ 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 _____ 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 _____

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

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Two 1/4 end bolts and nuts two bottom end bolts and nuts, two main bearing bolts and nuts Spare coupling bolt and nuts Spare feed and bilge pump valves. assorted iron bolts and nuts— Spare propeller.*

The foregoing is a correct description,
Macoll & Pollock Manufacturer.

Dates of Survey while building { During progress of work in shops— 1901.— Mar 21. June 20. 21. Oct 2. 18. 24. Nov. 9. 15. 19. Dec 20. 1902.— June 13. 19. Aug 26. 27 }
 { During erection on board vessel — — — — — Sep. 6. 8. 10. 12. }
 Total No. of visits 18.

Is the approved plan of main boiler forwarded herewith *No*
retained for duplicate
 " " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c.)

Material of screw shaft *and iron* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *two iron liners*
 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 If two liners are fitted, is the shaft lapped or protected between the liners *Painted*

The machinery built under Special Survey the material and workmanship found good and efficient
The boiler and main steam pipe tested under hydraulic pressure to 360 lb and found sound and efficient
The Engines tried under Steam at their working pressure and found satisfactory—
In my opinion this vessel is worthy of the notification of L.M.C. 9-02 to be made in the Register Book—

It is submitted that
 this vessel is eligible for
 THE RECORD L.M.C. 9, 02

The amount of Entry Fee... £ 1 : : When applied for, 7.10.02
 Special ... £ 10 : 13 : : When received, 11.10.02
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
Leonard Hallcross
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUES. 14 OCT 1902

Committee's Minute

Assigned

MACHINERY CERTIFICATE
 WRITTEN



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