

REPORT ON MACHINERY.

Port of Newcastle-on-Tyne

MUN. 22 DEC 1902

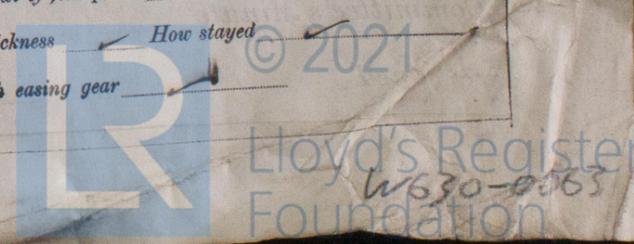
No. in Survey held at Newcastle-on-Tyne Date, first Survey Apr 9 Last Survey Dec 10th 1902
 Reg. Book. 23 Suppon the S.S. "Griqua" (Number of Visits 29)
 Master J.W. Anderson Built at Newcastle By whom built Armstrong Whitworth & Co When built 1902
 Engines made at Newcastle By whom made North Eastern Mar. Eng. Co when made 1902
 Boilers made at Newcastle By whom made North Eastern Mar. Eng. Co when made 1902
 Registered Horse Power _____ Owners Bucknall Bros. Port belonging to London
 Nom. Horse Power as per Section 28 387 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 25" 43" 68" Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 13.75 Lgth. of stern bush 5'4"
 Dia. of Tunnel shaft 13" Dia. of Crank shaft journals 13.35 Dia. of Crank pin 13.25 Size of Crank webs 26x9 Dia. of thrust shaft under collars 14" Dia. of screw 16-0" Pitch of screw 17-6 to 19-0" No. of blades 4 State whether moceable Yes Total surface 90.89
 No. of Feed pumps Wires Diameter of ditto 7.9x2.4 Stroke ✓ Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 2 Diameter of ditto 4.5 Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 8x9x10, 6x5.5x6, 7x4x10 and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room From 3.5" In Holds, &c. In Nos. 1, 2, 13 holds, two 3.5" In
W4, one in hold with 3.5", one in hold with 3"
 No. of bilge injections 1 sizes 6 Connected to condenser or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes
 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 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 27/11/02 Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from upper Platform Is forced draft fitted Yes YES

BOILERS, &c.— (Letter for record R) Total Heating Surface of Boilers 52769 Working Pressure 150 lbs Tested by hydraulic pressure to 360 lbs
 No. and Description of Boilers Three cyl. single ended
 Date of test 3/10/02 Can each boiler be worked separately Yes Area of fire grate in each boiler 36 No. and Description of safety valves to each boiler Two spring valves Area of each valve 7.07 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork Way 1/10th Mean dia. of boilers 12.97" Length 11-6" Material of shell plates S
 Thickness 1.76" Range of tensile strength 24-32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap 1/2" long. seams 1.5" to riv.
 Diameter of rivet holes in long. seams 1.7" Pitch of rivets 1.4" Lap of plates or width of butt straps 15.3"
 Per centages of strength of longitudinal joint rivets 82.6 Working pressure of shell by rules 181 Size of manhole in shell 16x12
 Size of compensating ring flanged in No. and Description of Furnaces in each boiler 3 Morrison's Material S Outside diameter 39"
 Length of plain part top 7.2" Thickness of plates bottom 3.2" Description of longitudinal joint with No. of strengthening rings ✓
 Working pressure of furnace by the rules 191 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 1/6" Top 5/8" Bottom 1"
 Pitch of stays to ditto: Sides 9x8" Back 9x10" Top 9x8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180
 Material of stays Iron Diameter at smallest part 1.2" Area supported by each stay 90" Working pressure by rules 186 End plates in steam space: Material S Thickness 1.4" Pitch of stays 2.1x1.9" How are stays secured as per Working pressure by rules 184 Material of stays S
 Diameter at smallest part 7.24" Area supported by each stay 399" Working pressure by rules 181 Material of Front plates at bottom S
 Thickness 7/8" Material of Lower back plate S Thickness 3.5" Greatest pitch of stays 1.4" Working pressure of plate by rules 183
 Diameter of tubes 2.5" Pitch of tubes 3.2x3.4" Material of tube plates S Thickness: Front 7/8" Back 3/4" Mean pitch of stays 9.5"
 Pitch across wide water spaces 1.4x1.1" Working pressures by rules 206 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9.2x1.4" Length as per rule 36" Distance apart 9" Number and pitch of Stays in each 3, 8"
 Working pressure by rules 191 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 ✓

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

1500-4-02-Copyable Ink.



DONKEY BOILER—

Iron Description

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:— *One propeller shaft, two top end + two bottom end connecting rod bolts & nuts, two main bearing bolts, one set crushing bolts, one set fuel & bilge pump valves, assorted bolts & nuts, Iron of various sizes.*

The foregoing is a correct description,

THE NORTH EASTERN MARINE ENGINEERING CO. LD. Manufacturer.

J. J. Harrison
 Dates of Survey while building } During progress of work in shops— *1902. Oct. 9, 30. May 22. June 5. July 3, 18, 24, 25, 29. Aug. 15, 18, 21, 25. Sep. 2, 9, 12, 15, 17, 22, 26.*
 } During erection on board vessel — *Oct. 2, 12, 17, 21, 24, 28. Nov. 6, 27. Dec. 10.*
 Total No. of visits *29.* Is the approved plan of main boiler forwarded herewith *no*
 " " " donkey " " " *✓*

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

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 *no* 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 *✓*

The Machinery of this vessel has been constructed under special survey, the materials and workmanship are sound and good and under the vessel eligible in my opinion to have record of L.M.C. 12.02

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.02. FD. Elec. light

J.S.
 22.12.02
 C.M.B.
 22.12.02

The amount of Entry Fee. £ *3* : : : When applied for, *19 DEC 1902*
 Special £ *39.4* : : :
 Donkey Boiler Fee £ : : : : When received, *29.12.02*
 Travelling Expenses (if any) £ : : : : *24/12/02*

G. Ashke
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 23 DEC 1902

Assigned *+ L.M.C. 12.02 FD*

MACHINERY CERTIFICATE WRITTEN



Newcastle-on-Tyne.

Certificate (if required) to be sent to

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