

REPORT ON MACHINERY.

Port of Newcastle-on-Tyne

Received at London Office SAT. 11 OCT 1902

No. in Survey held at Newcastle Date, first Survey Jan 16 Last Survey Oct 1st 1902
Reg. Book. on the S/S "Cymbeline" (Number of Visits 24)

Master Hopwood Built at Newcastle By whom built Armstrong Whitworth & Co. Tons { Gross 4506
Net 2940 When built 1902

Engines made at Newcastle By whom made Waltham Shipway & Eng. Co. when made 1902

Boilers made at Newcastle By whom made Waltham Shipway & Eng. Co. when made 1902

Registered Horse Power _____ Owners Bowbree Oil & S. Co. Ltd Port belonging to Liverpool

Nom. Horse Power as per Section 28 412 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 25" 42" 70" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 14.2 as fitted 14.2 Lgth. of stern bush 5'0"
Dia. of Tunnel shaft as per rule none Dia. of Crank shaft journals as per rule 13.2 as fitted 13.2 Dia. of Crank pin 13.2 Size of Crank webs 9x21 1/2 Dia. of thrust shaft under collars 13 3/4 Dia. of screw 17-6" Pitch of screw 18-0" No. of blades 4 State whether moveable no Total surface 98 sq

No. of Feed pumps 2 Diameter of ditto 10 1/2" Stroke 26" Can one be overhauled while the other is at work no

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work no

No. of Donkey Engines 2 Sizes of Pumps 10 1/2 x 10, 6 x 7 1/2 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Five 3 1/2" In Holds, &c. one in fore peak 3" two in fore hold 3" one in forward coffer-dam 3" one 6" suction in each cargo tank. Two steam suction in each pump room.

No. of bilge injections 1 sizes 7" Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size 4 1/2 3 1/2"

Are all the bilge suction pipes fitted with roses no Are the roses in Engine room always accessible no Are the sluices on Engine room bulkheads always accessible none

Are all connections with the sea direct on the skin of the ship no Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates no 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 no Are the blow off cocks fitted with a spigot and brass covering plate no

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 no

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges no

When were stern tube, propeller, screw shaft, and all connections examined in dry dock now Is the screw shaft tunnel watertight none

Is it fitted with a watertight door worked from

BOILERS, &c.— (Letter for record N) Total Heating Surface of Boilers 7032 sq Is forced draft fitted no

No. and Description of Boilers Three cyl. simp. End'd Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 19/2/02 Can each boiler be worked separately no Area of fire grate in each boiler 65 1/2 sq No. and Description of safety valves to each boiler Two spring valves Area of each valve 9.62 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear no

Smallest distance between boilers or uptakes and bunkers or woodwork 19" Mean dia. of boilers 15-0" Length 11-9" Material of shell plates S

Thickness 3/16 Range of tensile strength 24-32 Are they welded or stanged no Descrip. of riveting: cir. seams 4 1/2" hold in lap long. seams 4 1/2" to riv.

Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 87.8 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12

Size of compensating ring McNails No. and Description of Furnaces in each boiler 3 furn Material S Outside diameter 47 1/2"

Length of plain part top _____ bottom _____ Thickness of plates crown 9/16 Description of longitudinal joint weld No. of strengthening rings ✓

Working pressure of furnace by the rules 185 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 1/8" Top 5/8" Bottom 3/16"

Pitch of stays to ditto: Sides 9 x 8 1/2" Back 9 1/2 x 9 1/2" Top 9 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

Material of stays Iron Diameter at smallest part 1 5/8" Area supported by each stay 74 sq in Working pressure by rules 200 End plates in steam space: _____

Material S Thickness 1 1/4" Pitch of stays 19 1/2 x 19 1/2" How are stays secured as now Working pressure by rules 184 Material of stays S

Diameter at smallest part 7.24" Area supported by each stay 360 sq Working pressure by rules 187 Material of Front plates at bottom S

Thickness 1" Material of Lower back plate S Thickness 3/32 Greatest pitch of stays 16 1/2" Working pressure of plate by rules 206

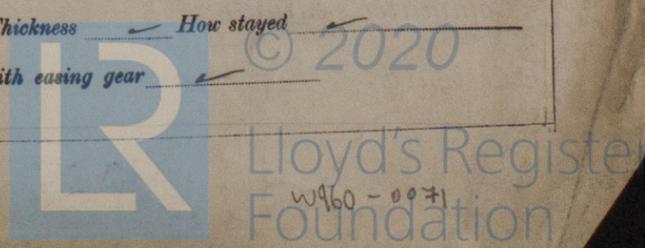
Diameter of tubes 3" Pitch of tubes 4 3/8 x 4 3/8" Material of tube plates S Thickness: Front 1" Back 3/32" Mean pitch of stays 8 1/2"

Pitch across wide water spaces 14" Working pressures by rules 196 Girders to Chamber tops: Material S Depth and thickness of girder at centre 12 1/2" web 1 1/2" Length as per rule 37 1/2" Distance apart 9" Number and pitch of Stays in each 3, 8 1/4"

Working pressure by rules 180 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 ✓



DONKEY BOILER— No. *None* 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 and two bottom end connecting rod bolts and nuts, two main bearing bolts, one at coupling bolts, one set pad and bilge pump valves, assorted bolts & nuts, Iron of various sizes.*

The foregoing is a correct description,

FOR THE HULLBEND SURVEY ENGINEERING CO. LTD.
 Otd 3/02 *W. Lloyd* Manufacturer.
 MANAGING DIRECTOR

Dates	During progress of work in shops—	1902 Jan. 16, 24, 30, Feb. 5, 10, 19, 21, 26, March 30, April 6, May 5, 15, 26, July 1, 9, 16, August 13, Sep. 1, 9, 17, 18, 22.
of Survey while building	During erection on board vessel—	Otd.
	Total No. of visits	24

Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " " *Yes*

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

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

The Machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel clift in my opinion to have record of +L.M.C. 10.02

It is submitted that this vessel is eligible for THE RECORD — L.M.C. 10.02 *Blac. Light*

W. Lloyd
 13.10.02

13.10.02

The amount of Entry Fee.. £ *2* : : : When applied for, *10 OCT 1902*
 Special .. £ *40 12* : : :
 Donkey Boiler Fee .. £ : : : When received, *13.10.02*
 Travelling Expenses (if any) £ : : :

W. Lloyd
 20/10/02 *G. S. Sake*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 14 OCT 1902**

Assigned *+ L.M.C. 10.02*

REPORT FORM No. 13.

Certificate (if required) to be sent to _____

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

MACHINERY CERTIFICATE WRITTEN.



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