

REPORT ON MACHINERY.

Port of Newcastle

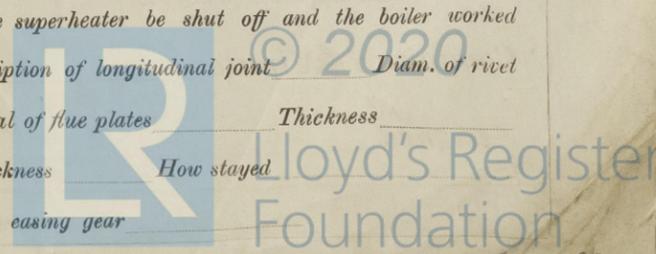
Received at London Office 30 JUN 1905

No. in Survey held at Newcastle Date, first Survey January 16th Last Survey June 16th 1905
 Reg. Book. 62 on the Leafield (Number of Visits 33)
 Master Leafield Built at Newcastle By whom built Wood Skinner & Co When built 1905
 Engines made at Newcastle By whom made H. E. M. Eng Co Ltd when made 1905
 Boilers made at " By whom made " when made 1905
 Registered Horse Power 266 Owners Leafield & Co (A. Brevis Mgr) Port belonging to Newcastle
 Nom. Horse Power as per Section 28 266 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Tri Cpd No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 23 3/4 Length of Stroke 39 Revs. per minute 67 Dia. of Screw shaft 12 3/4 Material of screw shaft Iron
 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 ✓ 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 ✓ Length of stern bush 4' 9"
 Dia. of Tunnel shaft 11 3/8 Dia. of Crank shaft journals 12 Dia. of Crank pin 12 Size of Crank webs 7 1/2 x 11 1/2 Dia. of thrust shaft under collars 12 Dia. of screw 15' 6" Pitch of screw 15' 6" No. of blades 4 State whether moveable f Total surface 45 1/2
 No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 8 x 10 x 10 7/8 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 of 3" + one of 3 1/2" In Holds, &c. 70" 14 1/2 two of 3"
 No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size yes 4"
 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 trial Is the screw shaft tunnel watertight yes
 Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.— (Letter for record 8) Total Heating Surface of Boilers 4230 sq Is forced draft fitted no
 No. and Description of Boilers 2 Single ended Multi Working Pressure 180 Tested by hydraulic pressure to 360 lbs
 Date of test 27.3.05 Can each boiler be worked separately yes Area of fire grate in each boiler 61 sq No. and Description of safety valves to each boiler 2 Spring Area of each valve 7.4" Pressure to which they are adjusted 185 1/2 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 14-11" Length 10-6 Material of shell plates S
 Thickness 1 1/2 Range of tensile strength 29 ton Are they welded or flanged no Descrip. of riveting: cir. seams lap double long, seams at butt
 Diameter of rivet holes in long. seams 1 7/8 Pitch of rivets 9 1/4 Top of plates or width of butt straps 17 3/4"
 Per centages of strength of longitudinal joint rivets 82 Working pressure of shell by rules 182 Size of manhole in shell ent 16 x 12
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 High Material S Outside diameter 4 1/2
 Length of plain part top ✓ Thickness of plates crown 9/16 Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 185 Combustion chamber plates: Material S Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 1 1/8
 Pitch of stays to ditto: Sides 9 1/2 x 9 3/8 Back 8 3/4 x 10 3/8 Top 9 1/2 x 8 3/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182 1/2
 Material of stays S Diameter at smallest part 1 1/2 Area supported by each stay 89" Working pressure by rules 180 End plates in steam space: Material S Thickness 1 1/2 Pitch of stays 21 1/2 x 21 1/2 How are stays secured at nuts Working pressure by rules 183 Material of stays S
 Diameter at smallest part 3.28 Area supported by each stay 4.66" Working pressure by rules 181 Material of Front plates at bottom S
 Thickness 7/8 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 14 1/2 Working pressure of plate by rules 208 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates S Thickness: Front 3/32 Back 3/4 Mean pitch of stays 8.78"
 Pitch across wide water spaces 14 1/2 Working pressures by rules 182 1/2 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/2 x 1 1/2 Length as per rule 31 Distance apart 9 3/8 Number and pitch of Stays in each 2 of 9 3/8
 Working pressure by rules 186 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?



DONKEY BOILER— No. 1 Description Exel. Multitubular
 Made at Stockton By whom made J. Sadron & Co. When made 1905 Where fixed Main deck
 Working pressure 100 tested by hydraulic pressure to 200 No. of Certificate 3441 Fire grate area 24 Description of safety valves 2 Spring
 No. of safety valves 2 Area of each 7.07 Pressure to which they are adjusted 103 1/2 If fitted with easing gear yes If steam from main boilers can enter the donkey boiler no
 Dia. of donkey boiler 9 ft Length 8' 6" Material of shell plates 5 Thickness 1 1/2 Range of tensile strength 28 to 32 Descrip. of riveting long. seams Hot. rivd Dia. of rivet holes 1 1/2 Whether punched or drilled 0 Pitch of rivets 3 1/8
 Lap of plating 6 1/2 Per centage of strength of joint Rivets 82-6 Thickness of shell end plates 3/4 Radius of do. — No. of Stays to do. 4
 Dia. of stays 2 1/2 Diameter of furnace Top 2' 9" Bottom Length of furnace 7' 3" Thickness of furnace plates 2" Description of joint Weld. Thickness of furnace crown plates 1 1/2 Stayed by Screw stay Working pressure of shell by rules 104 1/2
 Working pressure of furnace by rules 100 1/2 Diameter of uptake 3 Thickness of uptake plates F 1/4 B 5/8 Thickness of water tubes Stay 5/16

SPARE GEAR. State the articles supplied:— 1 set connecting rod bolts and nuts
two main bearing bolts and nuts. 1 set of coupling bolts and nuts. 1 set feed and bilge pump valves
propeller nuts bolts and assorted iron
 The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD. Manufacturer.

J. J. Harrison
 Dates of Survey while building
 During progress of work in shops — ASSIST. SECRETARY.
 During erection on board vessel —
 Total No. of visits 33
 1905. Jan. 16. 20. 25 Feb. 1. 3. 7. 13. 20. 21. 22. 27. March 6. 9. 15. 16. 20. 21. 22. 23. 27.
 April 3. 10. 20. May 5. 8. 12. 15. 16. 19. 19. June 1. 9. 16.

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

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers)
constructed under Special Survey. Materials and workmanship good. Engines and boilers examined under Full working conditions and found satisfactory.

In my opinion this vessel is now eligible for the record in the Register Book of L.M.C 6/05

It is submitted that this vessel is eligible for THE RECORD L.M.C 6.05.

M.S.
30.6.05
R.L.
30.6.05

J. J. Lindley
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee. . . £ 2 : :
 Special £ 33 : 6 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 29/6/05
 When received, 8/7/05

Committee's Minute TUES. 4 JUL 1905
 Assigned + L.M.C 6.05

