

REPORT ON MACHINERY

Mdb No. 3980
Spl. No. 12478

Port of MIDDLESBROUGH-ON-TEES.

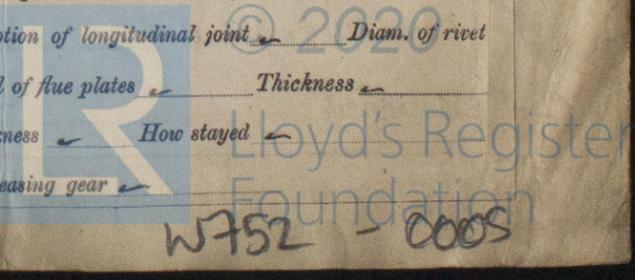
Received at London Office. MUN. 17 OCT 1904

No. in Survey held at Stockton & Date, first Survey 8th July Last Survey 8th Oct. 1904
 Reg. Book. 12 on the Steel S.S. "Kington" MBR (Number of Visits 19)
 Master W. Surgeon Built at W. Hartlepool By whom built Jarvis's & Co. Ltd. Tons { Gross 3017.77
 Engines made at Stockton By whom made Blair & Co. Ltd. when made 1904 Net 1936.17
 Boilers made at Stockton By whom made Blair & Co. Ltd. when made 1904
 Registered Horse Power _____ Owners H. N. Holman Port belonging to London
 Nom. Horse Power as per Section 28 281 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines Triple Exp. Direct acting No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 23 1/2 - 39 - 64 Length of Stroke 42 Revs. per minute 56 Dia. of Screw shaft as per rule 13.7 Material of W. 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 5-1"
 Dia. of Tunnel shaft as per rule 11.65 Dia. of Crank shaft journals as per rule 12.23 Dia. of Crank pin 13 1/4 Size of Crank webs 20 1/2 x 8 1/2 Dia. of thrust shaft under
 collars 13 1/4 Dia. of screw 17-0 Pitch of screw 16-0 No. of blades 4 State whether moveable No Total surface 78 sq
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps 13 9/16 x 10 7/8 & 4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two (P. 15) 3" Centric 3 1/2" In Holds, &c. Two each Hold 3" diameter
 No. of bilge injections 1 sizes 6 1/4" Connected to condenser, or to circulating pump L.P. Is a separate donkey suction fitted in Engine room & size Yes 1 1/2"
 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 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 vessel Is the screw shaft tunnel watertight See ship report.
 Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.— (Letter for record (A)) Total Heating Surface of Boilers 4230 sq Is forced draft fitted No
 No. and Description of Boilers Two Cyl. Multi-ported Working Pressure 180 lb Tested by hydraulic pressure to 360 lb
 Date of test 31-8-04 Can each boiler be worked separately Yes Area of fire grate in each boiler 59 1/4 sq No. and Description of safety valves to
 each boiler Two Spring Area of each valve 8.29 sq 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 13" Dia. of boilers 15-3 Length 10-6 Material of shell plates Steel
 Thickness 1 5/16 Range of tensile strength 27/32 Are they welded or flanged No Descrip. of riveting: cir. seams 2 D 17 in long. seams 2 Butt Straps
 Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets One row 9", Two 14 1/2" Lap of plates or width of butt straps 1-7 1/2"
 Per centages of strength of longitudinal joint rivets 85.1 Working pressure of shell by rules 186.6 lb Size of manhole in shell 17 x 13
 Size of compensating ring 31 x 27 x 1 5/16 No. and Description of Furnaces in each boiler 3 Brown Impulse Material Steel Outside diameter 3-6 1/2
 Length of plain part top 6-7 Thickness of plates bottom 4 1/16 Description of longitudinal joint Welded No. of strengthening rings _____
 Working pressure of furnace by the rules 191 lb Combustion chamber plates: Material Steel Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 1 3/16
 Pitch of stays to ditto: Sides 9 1/2 x 8 1/4 Back 9 1/2 x 8 1/2 Top 9 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads Nut Working pressure by rules 191 lb
 Material of stays Iron Diameter at smallest part 1 9/16 Area supported by each stay 78.6 sq Working pressure by rules 182.9 lb End plates in steam space:
 Material Steel Thickness 1 7/32 Pitch of stays 9 1/8 x 15 How are stays secured With Working pressure by rules 214 lb Material of stays Iron
 Diameter at smallest part 3" Area supported by each stay 296.8 sq Working pressure by rules 184 lb Material of Front plates at bottom Steel
 Thickness 1 1/32 Material of Lower back plate Steel Thickness 1 3/32 Greatest pitch of stays 18 x 3 1/2 Working pressure of plate by rules 208 lb
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 7/8 Material of tube plates Steel Thickness: Front 1 1/32 Back 1 3/16 Mean pitch of stays 9 5/8
 Pitch across wide water spaces 14 Working pressures by rules 208 lb Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 1/4 x 1 5/8 Length as per rule 27 1/4 Distance apart 9 1/2 Number and pitch of Stays in each Two 9 1/2
 Working pressure by rules 184 lb 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. 101 Description Cyl Mull 2 plain furnaces.
 Made at Stockton By whom made J. Suddon & Co. Ltd When made 1904 Where fixed Stoke Hole
 Working pressure 90 lb tested by hydraulic pressure to 180 lb No. of Certificate 3290 Fire grate area 354 Description of safety valves Spring loaded
 No. of safety valves two Area of each 5.94 Pressure to which they are adjusted 95 If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No
 Dia. of donkey boiler 10'-0" Length 10'-0" Material of shell plates Steel Thickness 9/16" Range of tensile strength 27/32 Descrip. of riveting long. seams L of tube riv Dia. of rivet holes 7/8" Whether punched or drilled Drilled Pitch of rivets 2 rows 4 1/2" 1 row 2 1/4"
 Lap of plating 6 5/8" Per centage of strength of joint 80.9 Rivets 80.9 Thickness of shell plates 11/16" Radius of do. 11/16" No. of Stays to do. 4
 Dia. of stays 2 1/4" Diameter of furnace Top 5'-0" Bottom 8'-9 1/2" Length of furnace top 6'-6" Thickness of furnace plates 1/2" Top 9/16" Bottom Description of joint L of ring riv Thickness of stayed crown plates 9/16" Stayed by Acum stays 9 x 8 1/2 in bar Working pressure of shell by rules 91 lb
 Working pressure of furnace by rules 90 lb Diameter of tubes 3 1/2" Thickness of tubes plates F 11/16" B 3/4" Thickness of stays tubes 5/16"

SPARE GEAR. State the articles supplied: Two top and bottom flange bottom end bolts. Two main bearing bolts. One set coupling bolts. One set dead pump valves. One set Bilge pump valves. One set Check valves. Insulators. End cover tubes. Bolts nuts. Stud nuts & bars assorted.

The foregoing is a correct description,
 FOR **BLAIR & CO., LIMITED.** Manufacturer. of main engines & boilers.
W. Erskine

Dates of Survey while building
 During progress of work in shops - 1904 July 8, 14, 19, 28. August 4, 8, 10, 12, 25, 26, 30, 31. Sept 2, 5, 20, 22, 26, 27, 28
 During erection on board vessel - 1904 September 10. October 6, 8.
 Total No. of visits (Males) 19. (Females) 3
 Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " Yes

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

The machinery and boilers of this vessel have been constructed under special survey, the materials and workmanship are good and efficient, and when tested under steam were found satisfactory, and in our opinion eligible for the notification F.M.C. 10.04. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD F.M.C. 10.04

W.S.
17.10.04
19.10.04

M. Northpool

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

The amount of Entry Fee... £ 2 : 0 : 0 When applied for, 15.10.1904
 Special £ 34 : 1 : 0
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 When received, 10/11/1904

G. A. Milner R. D. Shilston
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 18 OCT 1904
 Assigned + L.M.C. 10.04

MACHINERY CERTIFICATE WRITTEN.

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