

REPORT ON MACHINERY.

No. 24918
WFD. 7 JUL 1909

Received at London Office

When handed in at Local Office 6/7/1909 Port of Glasgow
 Date, First Survey 30th September 1908 Last Survey July 1909
 (Number of Visits) _____
 in Survey held at Penryn
 on the S/S Sand Grouse
 Master Roddick Built at Penryn By whom built Tom Simons & Co. Ltd. Penryn No. 488 When built 1909
 Engines made at Penryn By whom made Tom Simons & Co. Ltd. Penryn No. 488 when made 1909
 Boilers made at Penryn By whom made Tom Simons & Co. Ltd. Penryn No. 488 when made 1909
 Registered Horse Power 226 Owners Government of Southern Nigeria Port belonging to Lagos
 Gross Tons 2061
 Net Tons 1291
 Nom. Horse Power as per Section 28 297 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Twin Screw Suple No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 18" 25" 48" Length of Stroke 27" Revs. per minute 130 Dia. of Screw shaft as per rule 8.2 9" 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 caulked only 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 Length of stern bush 3'-9"
 Dia. of Tunnel shaft as per rule 2.3 9" Dia. of Crank shaft journals as per rule 2.70 9" Dia. of Crank pin 9" Size of Crank webs 6 1/2" x 15" Dia. of thrust shaft under
 collars 9" Dia. of screw 10-0 Pitch of Screw 11' 6" No. of Blades 4 State whether moveable no Total surface 58 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pumps 7" x 6" x 8" 11" x 6" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room three 2 1/2" + stokehold In Holds, &c. two 2 1/2" in side pockets, two 2 1/2" in fore pump room, two 2 1/2" in yard compartment
 No. of Bilge Injections 2 sizes 5 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes 2 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 no
 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 only steam & bilge pipes How are they protected iron casing & flanging
 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
 Dates of examination of completion of fitting of Sea Connections 18/5/09 of Stern Tube 18/5/09 Screw shaft and Propeller 18/5/09
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D Colville Sons
 Total Heating Surface of Boilers 5082 sq ft Is Forced Draft fitted no No. and Description of Boilers 3 Single ended return tube
 Working Pressure 185 lbs Tested by hydraulic pressure to 360 lbs Date of test 5/3/09 No. of Certificate 9787
 Can each boiler be worked separately yes Area of fire grate in each boiler 57 sq ft No. and Description of Safety Valves to
 each boiler 1 pair direct spring Area of each valve 5-9 sq in 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 about 10 ft Mean dia. of boilers 13'-0" Length 10'-6" Material of shell plates Steel
 Thickness 1 1/16" Range of tensile strength 281-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap double
 long. seams double butt Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 17 5/8"
 Per centages of strength of longitudinal joint rivets 150 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" x 12"
 plate 85-6 Size of compensating ring M. Nuts No. and Description of Furnaces in each boiler 3 Dighton Material Steel Outside diameter 42 1/4"
 Length of plain part top 7 1/4" bottom 7 1/8" Thickness of plates top 7 1/8" bottom 7 1/2" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material Steel Thickness: Sides 7/8" Back 7/8" Top 7/8" Bottom 3/4"
 Pitch of stays to ditto: Sides 7 3/4" x 7 1/8" Back 7 3/4" x 7 1/8" Top 7 1/4" x 8 1/4" If stays are fitted with nuts or riveted heads riveted Working pressure by rules 181
 Material of stays Steel Diameter at smallest part 1.45" Area supported by each stay 55 sq in Working pressure by rules 210 End plates in steam space:
 Material Steel Thickness 1 1/16" Pitch of stays 19 x 18 How are stays secured 2 1/2" nuts Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 6.1" Area supported by each stay 341 sq in Working pressure by rules 186 Material of Front plates at bottom Steel
 Thickness 15/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 12" Working pressure of plate by rules 234
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 15/16" Back 13/16" Mean pitch of stays 10 5/8"
 Pitch across wide water spaces 13 1/8" Working pressures by rules 232, 180 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 1/2" x 3/4" double Length as per rule 34 5/8" Distance apart 8 1/4" Number and pitch of stays in each (3) 17 1/4"
 Working pressure by rules 200 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 _____

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description *None*

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

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____

No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

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 _____ Plates _____

Working pressure of shell by rules _____ 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 _____

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

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *2 Top end bolts & nuts, 2 Bottom end bolts & nuts, 1 set of coupling bolts & nuts, 2 main bearing bolts & nuts, 1 set of fuel and barge pump valves, bolts & nuts of various sizes, 2 propellers & shafts, 1 crank shaft, 1 HP. cylinder bar, 1 set of piston packing rings, joint rings & pump etc.*

The foregoing is a correct description,

James D. Murray Manufacturer.

Dates of Survey while building: During progress of work in shops— 1908: Sept. 30, Oct. 12, 13, 14, 20, 23, 26, Nov. 3, 9, 10, 12, 13, 18, 19, 21, 23, 24, 30, Dec. 5, 8, 10, 14, 1909: Jan. 12, 19, 22, Feb. 1, 4, 5, 11, 16, 22, 26, Mar. 5, 10, 16, 30, Apr. 9, 15, 29, May 6, 18, 24, June 2, 10, 21, 22, 29, July.

Total No. of visits *49*

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

Dates of Examination of principal parts—Cylinders *4/11/08* Slides *23/11/08* Covers *4/12/08* Pistons *9/11/08* Rods *9/11/08*

Connecting rods *9/11/08* Crank shaft *10/12/08* Thrust shaft *18/11/08* Tunnel shafts _____ Screw shaft *18/11/08* Propellers *29.6.09*

Stern tube *12/11/09, 11/2/09* Steam pipes tested *15/4/09* Engine and boiler seatings *16/3/09* Engines holding down bolts *30/3/09*

Completion of pumping arrangements *15/4/09* Boilers fixed *15/4/09* Engines tried under steam _____

Main boiler safety valves adjusted *10.6.09, 21.6.09* Thickness of adjusting washers *Enc boiler PV 3/8 S.V. 7/32 Stand + main PV 3/8 S.V. 7/32*

Material of Crank shaft *Steel* Identification Mark on Do. *See report* Material of Thrust shaft *Steel* Identification Mark on Do. *See report*

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts *Steel* Identification Marks on Do. *See report*

Material of Steam Pipes *S.D. Steel & S.D. Copper* Test pressure *540 lbs, 450 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey and is in accordance with the rules. Materials and workmanship are good.*

The machinery of this vessel is eligible in our opinion to be classed + LMC 7.09 Electric Light.

Note. The engines have not yet been seen working under steam, but, it is intended to have this done before the certificate is handed over.

It is submitted that this vessel is eligible for THE BROOD.

+ LMC 7.09
ARR *Electric light*
7.7.09 *4/7/09*

The amount of Entry Fee	£ 2 : 0 :	When applied for,
Special	£ 34 : 14 :	6/7/09
Donkey Boiler Fee	£ _____ :	When received,
Travelling Expenses (if any)	£ _____ :	8.7.09

A.M. Keane & Harry Clarke
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW 6 JUL 1909**

Assigned *+ LMC 7.09*

MACHINERY CERTIFICATE WRITTEN 7.7.09



© 2021

Lloyd's Register Foundation

LMA 812/09 Certificate (if requisite) to be sent to Committee's Minute.