

REPORT ON MACHINERY.

No. 23026.

Received at London Office WED, AUG. 20. 1913

Date of writing Report 19 When handed in at Local Office 18-8-10 B. Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 11-4-12 Last Survey 16-8-1913
 Reg. Book. "Ceylon" (Number of Visits 37) Tons { Gross 5045
 on the "Ceylon" Net 5124
 Master James J. Millan & Son Built at Dumblanton By whom built A. J. Millan & Son When built 1913
 Engines made at Glasgow By whom made David Rowan & Co. when made 1913
 Boilers made at do By whom made do when made 1913
 Registered Horse Power 458 Owners Rotterdamische Lloyd Port belonging to Rotterdam
 Nom. Horse Power as per Section 28 458 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 75 Dia. of Screw shaft 5.5 Material of 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 — 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 5-0
 Dia. of Tunnel shaft 13.323 Dia. of Crank shaft journals 13.49 Dia. of Crank pin 14.2 Size of Crank webs 9 Dia. of thrust shaft under
 collars 14.2 Dia. of screw 18-0 Pitch of Screw 18-6 No. of Blades 4 State whether moveable no Total surface 100
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes, also pr. 9 1/2 x 7 x 2 1/2
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 9 1/2 x 12 1/2 7 1/2 x 12 1/2 9 1/2 x 12 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 - 3 1/2 In Holds, &c. 2 - 3 1/2 each hold
 No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size Yes - 3 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 For suction How are they protected Wood covering
 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 8 of Stern Tube 8 Screw shaft and Propeller 26/6/13
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Wm. Beardmore & Co. Ltd.
 Total Heating Surface of Boilers 7860 Is Forced Draft fitted no No. and Description of Boilers Three Single Ended
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 4/6/13 No. of Certificate 12135
 Can each boiler be worked separately Yes Area of fire grate in each boiler 60.3 No. and Description of Safety Valves to
 each boiler Lock down double Area of each valve 5.9 Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 15 Mean dia. of boilers 15-8 Length 11-6 Material of shell plates steel
 Thickness 1 1/4 Range of tensile strength 28432 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. R. L.
 long. seams D. B. S. Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9 Lap of plates or width of butt straps 19 1/2
 Per centages of strength of longitudinal joint 89.25 Working pressure of shell by rules 180 lb Size of manhole in shell 16 x 12
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Dighton Material steel Outside diameter 4-0 7/8
 Length of plain part 7 Thickness of plates 9 1/16 Description of longitudinal joint weld No. of strengthening rings —
 Working pressure of furnace by the rules 190 Combustion chamber plates: Material steel Thickness: Sides 19 1/32 Back 19 1/32 Top 19 1/32 Bottom 7 1/8
 Pitch of stays to ditto: Sides 7 x 2 3/4 Back 7 1/2 x 2 3/4 Top 7 x 2 3/4 If stays are fitted with nuts or riveted heads Solid bolts Working pressure by rules 180
 Material of stays steel Diameter at smallest part 1.48 Area supported by each stay 6.6 Working pressure by rules 180 End plates in steam space:
 Material steel Thickness 1 7/32 Pitch of stays 17 3/4 x 20 1/2 How are stays secured D. nuts Working pressure by rules 180 Material of stays steel
 Diameter at smallest part 7.06 Area supported by each stay 36.5 Working pressure by rules 200 Material of Front plates at bottom steel
 Thickness 1 5/16 Material of Lower back plate steel Thickness 2 5/32 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 180
 Diameter of tubes 3 Pitch of tubes 4 1/4 x 4 1/8 Material of tube plates steel Thickness: Front 1 5/16 Back 3/4 Mean pitch of stays 10 1/2
 Pitch across wide water spaces 13 Working pressures by rules 180 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9 1/4 x 7 1/8 x 2 Length as per rule 37 1/2 Distance apart 8 3/4 Number and pitch of stays in each 4 at 7
 Working pressure by rules 180 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 _____ Radius of do. _____ Stayed by _____

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

SPARE GEAR. State the articles supplied:— Two top end bolts, 2 bottom end bolts, 2 main bearing bolts, set of coupling bolts - all with nuts, feed & bridge valves, assorted iron etc. Propeller, set air circulating pump valves, 6 boiler tubes, 100 fine bars, etc.

The foregoing is a correct description,

for David Rowan & Co. Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1912. April 11-15-19. May 1. 1913. July 10-16-21-28. Feb'y. 7-28. Mar 12-13. Apr 3-10-17-19-24-28-29.
 { During erection on board vessel - - - } May 5-7-23. June 5-4-11-26. July 2-11-17-30-31. Aug 1-7-8-12-13-16.
 Total No. of visits 37. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 2/6/13 Slides 2/6/13 Covers 2/6/13 Pistons 2/6/13 Rods 24/4/13
 Connecting rods 24/4/13 Crank shaft 2/6/13 Thrust shaft 11/6/13 Tunnel shafts 11/6/13 Screw shaft 11/6/13 Propeller 11/6/13
 Stern tube 11/6/13 Steam pipes tested 31/7/13 Engine and boiler seatings 11/7/13 Engines holding down bolts 7/8/13
 Completion of pumping arrangements 12/8/13 Boilers fixed 7/8/13 Engines tried under steam 16/8/13
 Main boiler safety valves adjusted 13/8/13 Thickness of adjusting washers P. P 7/16, 5 7/16, C. P 7/16 5 7/16, S. P 7/16, 5 7/16
 Material of Crank shaft steel Identification Mark on Do. H.G.S. Material of Thrust shaft steel Identification Mark on Do. H.G.S.
 Material of Tunnel shafts steel Identification Marks on Do. H.G.S. Material of Screw shafts steel Identification Marks on Do. H.G.S.
 Material of Steam Pipes Steel Test pressure 540 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The engines & boilers of this vessel have been constructed under special survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is, in my opinion, eligible to have notation LMC 8, 13 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.13

J.F. Smith
 20.8.13

Glasgow

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

The amount of Entry Fee	£ 3 : 0 :	When applied for,	15-8-13.
Special	£ 42 : 18 :	When received,	18-8-13.
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

H. Gardner-Smith
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 19 AUG 1913
 Assigned + LMC 8.13

