

REPORT ON MACHINERY.

No. 22462
WED. MAR. 19. 1913

Received at London Office

of writing Report 13. 3. 1913 When handed in at Local Office 13. 3. 1913 Port of Glasgow.
 in Survey held at Glasgow.
 Date, First Survey 1. 8. 13 Last Survey 12. 3. 1913
 (Number of Visits 47)
 Sup. on the S.S. "LINMERE"
 Master A. Cameron. Built at Port Glasgow By whom built Murdoch & Murray (N^o 253) Tons { Gross 1578
 Net 853
 Engines made at Glasgow By whom made Muir & Houston (N^o 650) when made 1913
 Makers made at - do - By whom made - do - when made 1913
 Registered Horse Power 211 Owners Watson S.S. Co. Ltd (Herbert Watson & Co. Agents) Port belonging to Manchester
 Net Horse Power as per Section 28 210.7 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

GINES, &c.—Description of Engines Triple expansion, surf. condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 19 1/2, 33, 54 Length of Stroke 36 Revs. per minute 82 Dia. of Screw shaft as per rule 11.23 Material of screw shaft Iron
 as fitted 11 1/2
 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
 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
 bearings are fitted, is the shaft lapped or protected between the liners Length of stern bush 3'-10"
 Dia. of Tunnel shaft as per rule 9.83 Dia. of Crank shaft journals as per rule 10.32 Dia. of Crank pin 10 1/2 Size of Crank webs 6 1/2 x Dia. of thrust shaft under
 as fitted 10 Dia. of Crank pin 10 1/2 as fitted 10 1/2
 No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 18 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/4 Stroke 18 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 7x4 1/2 x 8 Duplex Ball Ball No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 6-2 1/2 (Port Fore + Aft, Star. Fore + Aft, Dry tank, Special) No. and size of Suctions connected to both Bilge and Donkey pumps
 Main hold 2-2 1/2 P+S. In. hold 2-2 1/2 P+S.
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pump 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 Yes
 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 Yes
 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
 That pipes are carried through the bunkers Yes. tanks & large suction How are they protected wood casing
 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 see Greenock Report of Screw shaft and Propeller
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Indicator platform

MILERS, &c.—(Letter for record S) Manufacturers of Steel W. Beardmore & Co. & The Lanarkshire Steel Co.
 Total Heating Surface of Boilers 3534 sq ft Is Forced Draft fitted No No. and Description of Boilers 2-SE Marine
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 4.2.13 No. of Certificate 11965
 Can each boiler be worked separately Yes Area of fire grate in each boiler 53 1/2 sq ft No. and Description of Safety Valves to
 each boiler 2-2 1/8" spring loaded Area of each valve 5.41 sq in Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes
 Smallest distance between boiler uptakes and bunkers on woodwork 2'-3" Mean dia. of boilers 14'-0" Length 10'-9" Material of shell plates Steel
 Thickness 1 1/32 Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
 Long. seams T.R. D.B.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 1'-5"
 Per centages of strength of longitudinal joint rivets 84.8 Working pressure of shell by rules 183 lbs. Size of manhole in shell 16" x 12"
 plate 85
 Size of compensating ring 7 1/2" x 1 1/32 No. and Description of Furnaces in each boiler 3-Turbin Material Steel Outside diameter 3'-4"
 Length of plain part top 14" crown 14" bottom 13 1/2" Description of longitudinal joint weld No. of strengthening rings nil
 Working pressure of furnace by the rules 199 lbs Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 3/4
 Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 190 lbs
 Material of stays Steel Area Diameter at smallest part 1.45 Area supported by each stay 64 Working pressure by rules 181 lbs End plates in steam space:
 Material Steel Thickness 1 1/32 Pitch of stays 24" x 19 1/2" How are stays secured D.N. Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 8.48 Area supported by each stay 468 Working pressure by rules 188 lbs Material of Front plates at bottom Steel
 Thickness 3/4 Material of Lower back plate Steel Thickness 1/8 Greatest pitch of stays 14" x 10" Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 3/4 Back 13/16 Mean pitch of stays 9" x 9"
 Pitch across wide water spaces 1'-2.5" Working pressures by rules 205 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8" x 1" (double) Length as per rule 2'-9 3/8 Distance apart 8" Number and pitch of stays in each 3-8"
 Working pressure by rules 201 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes 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
 Is 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

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 Safe

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:— 2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed pump valves, 1 set bilge pump valves, 1 set feed check valves, 1 set donkey pump valves, 1 safety valve spring, 1 set escape valve springs, 2 propellers.

The foregoing is a correct description,
MOTR & HOUSTON, LIMITED. Manufacturer.

Dates of Survey while building	During progress of work in shops --	1912. Aug. 1-9-21-26-29. Sept. 2-5-10-13-23-25. Oct. 3-10-14-17-21-29. Nov. 4-15-18-21
	During erection on board vessel ---	Dec. 2-4-9-12-16-18-27. 1913. Jan. 10-14-16-30-23-27-30-31. Feb. 4-5-17-20-27-28. March 6-10-12.
	Total No. of visits	47.

Is the approved plan of main boiler forwarded herewith Yes ✓

" " " donkey " " " Yes ✓

Dates of Examination of principal parts—Cylinders 14.10.12 Slides 29.10.12 Covers 21.10.12 Pistons 21.10.12 Rods 17.10.12

Connecting rods 17.10.12 Crank shaft 10.1.13 Thrust shaft 10.1.13 Tunnel shafts 14.1.13 Screw shaft 10.1.13 Propeller 10.1.13

Stern tube 24.12.12 Steam pipes tested 28.2.13 Engine and boiler seatings 14.2.13. Engines holding down bolts 24.2.13

Completion of pumping arrangements 24.2.13 Boilers fixed 10.3.13 Engines tried under steam 12.3.13

Main boiler safety valves adjusted 10.3.13. Thickness of adjusting washers Pint 7/16 P. 3/8's. Stan 3/8" both

Material of Crank shaft Steel Identification Mark on Do. 3185 W.D.H. Material of Thrust shaft Steel Identification Mark on Do. 3042 P.T.B

Material of Tunnel shafts Iron Identification Marks on Do. 3042 P.T.B. Material of Screw shafts Iron Identification Marks on Do. 3042 P.T.B

Material of Steam Pipes Copper Test pressure 360 lbs. ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The material and workmanship are good. The machinery and boilers of this vessel have been built under special survey in accordance with the Rules and approved plans, securely fitted on board and tried with satisfactory results under steam and are in my opinion, eligible for classification and to have record + L.M.C. 3, 13

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 3, 13.

J.M. J.W.D. 20/3/13

P.J. Brown

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

The amount of Entry Fee .. £ 2.00 When applied for,

Special .. £ 30.11.0 14/3/13

Donkey Boiler Fee .. £ 4.00 When received,

Travelling Expenses (if any) £ : : 30/1/13

Committee's Minute GLASGOW 18 MAR. 1913

Assigned + L.M.C. 3, 13

MACHINERY CERTIFICATE WRITTEN.



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Glasgow

Certificate (if required) to be sent to

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

15/3/13