

REPORT ON MACHINERY.

No. 14977.

Port of Greenock

Received at London Office

TUES. FEB 26 1907

No. in Survey held at Greenock
Reg. Book.Date, first Survey 2nd May 1906, Last Survey 19th Feb 1907.(Number of Visits 55.)on the SCREW STEAMER "LORD SEFTON"Master Glashan Built at Dumbarton By whom built A. McMillan & SonGross
Tons
NetWhen built 1904Engines made at Greenock By whom made Rankin & Blackmore when made 1904Boilers made at Greenock By whom made Rankin & Blackmore when made 1904Registered Horse Power 410 Owners J. Herron & Co. Port belonging to LiverpoolNom. Horse Power as per Section 28 410 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted NoENGINES, &c.—Description of Engines Triplic Expansion No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 26"-42"-70" Length of Stroke 48" Revs. per minute 62 Dia. of Screw shaft 14 1/2" Material of SteelIs 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 tightin the propeller boss Yes If the liner is in more than one length are the joints burned Burned If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If twoliners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 60"Dia. of Tunnel shaft 12 1/2" as per rule 12 1/2" Dia. of Crank shaft journals 13 1/2" as per rule 13 1/2" Dia. of Crank pin 13 1/2" Size of Crank webs 9 x 18 1/2" Dia. of thrust shaft undercollars 13 1/2" Dia. of screw 18 0" Pitch of Screw 17 0" No. of Blades 4 State whether moveable No Total surface 96 Sq. ft.No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work YesNo. of Donkey Engines 3 Sizes of Pumps 3 1/2" x 8 1/2" (10 x 12) (4 x 2 1/2 x 5) No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 1 Strokehold: four - 3 1/2" dia. In Holds, &c. 1 Strokehold: four - 3 1/2" dia. 1 1/2" Hold: two - 3 1/2" dia. 1 1/2" Hold: two - 3 1/2" dia.No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2" dia.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 YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 AboveAre 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 YesWhat pipes are carried through the bunkers None How are they protected YesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesDates of examination of completion of fitting of Sea Connections Yes of Stern Tube Yes Screw shaft and Propeller YesIs the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platformOILERS, &c.—(Letter for record 5) Manufacturers of Steel Plates Steel Coy of Ireland, Paris (by Danahy & Co.)Total Heating Surface of Boilers 5523 Sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers Two Cylindrical Multi-EndWorking Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 10th Jan'y 07 No. of Certificate 808Can each boiler be worked separately Yes Area of fire grate in each boiler 59 Sq. ft. No. and Description of Safety Valves toeach boiler 2: Over Spring Area of each valve 1104" Pressure to which they are adjusted 185 lb Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15' 6" Length 11' 6" Material of shell plates SteelThickness 1 1/2" Range of tensile strength 28 1/2 - 32 lb Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Doublelong. seams Double Butt Straps Diameter of rivet holes in long. seams 1 3/32" Pitch of rivets 9 3/32" Lap of plates or width of butt straps 18 1/2"Per centages of strength of longitudinal joint 85% Working pressure of shell by rules 180 lb Size of manhole in shell 16" x 12"Size of compensating ring 20" x 26" x 1 1/2" No. and Description of Furnaces in each boiler 3: Daylight Material Steel Outside diameter 49"Length of plain part 14' 9" Thickness of plates 1 1/2" Description of longitudinal joint Weld No. of strengthening rings NoneWorking pressure of furnace by the rules 180 lb Combustion chamber plates: Material Steel Thickness: Sides 3/16" Back 3/32" Top 5/8" Bottom 3/4"Pitch of stays to ditto: Sides 7/8" x 7/8" Back 7/8" x 8 1/2" Top 8 1/8" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbMaterial of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 65" Working pressure by rules 182 lb End plates in steam space:Material Steel Thickness 1" Pitch of stays 15 1/2" x 16" How are stays secured Double nuts Working pressure by rules 194 lb Material of stays SteelDiameter at smallest part 2 1/16" Area supported by each stay 244" Working pressure by rules 194 lb Material of Front plates at bottom SteelThickness 1 1/2" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 182 lbDiameter of tubes 2 1/2" Pitch of tubes 3 3/32" x 3 3/32" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9 1/4"Pitch across wide water spaces 13 1/4" Working pressures by rules 205 lb Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 9 1/2" x 1 1/4" Length as per rule 31' 6" Distance apart 8 1/8" Number and pitch of stays in each 2: 9"Working pressure by rules 192 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler workedseparately Yes Diameter 18" Length 18" Thickness of shell plates 1 1/2" Material Steel Description of longitudinal joint Weld Diam. of rivetholes 1 1/2" Pitch of rivets 9 3/32" Working pressure of shell by rules 205 lb Diameter of flue 18" Material of flue plates Steel Thickness 1 1/2"If stiffened with rings Yes Distance between rings 18" Working pressure by rules 192 lb End plates: Thickness 1 1/2" How stayed YesWorking pressure of end plates 192 lb Area of safety valves to superheater 182 lb Are they fitted with easing gear Yes

W613-0155

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *One* Description *1. Cylindrical boiler with 2 furnaces.*
 Made at *Glasgow* By whom made *Lindsay Burnett & Co.* When made *18/12/06* Where fixed *On Deck*
 Working pressure *100 lb* tested by hydraulic pressure to *200 lb* Date of test *18/12/06* No. of Certificate *8299* Fire grate area *30.6* Description of Safety
 Valves *Screw Spring* No. of Safety Valves *2* Area of each *5.94* Pressure to which they are adjusted *105 lb* Date of adjustment *13/2/07*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *Washers* Length *7' 3"* *11 1/2"*
 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
 Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays Plates
 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:— *Propeller, Propeller shaft, Two main Bearings, Bolts, Two Crosshead Bolts, Two Crank pin Bolts, 1 set Coupling Bolts, One set Feed & Bilge pump valves, Half set Air Circulating pump valves, Rambottom Pump for H.P. & L.P. pistons Bolts & nuts assorted, Iron of various sizes.*
 The foregoing is a correct description,

Hamilton & MacIntyre Manufacturer.

Dates of Survey while building
 During progress of work in shops— *1906. May 2, 7, 11, 14, 17, 21, 29. June 6, 14, 21, 26. July 2, 4, 8, 21. Aug 9, 29. Sep 6, 12, 20, 27, 28. Oct 4, 9, 18, 26.*
 During erection on board vessel— *31. Nov 5, 9, 13, 16, 20, 24, 28. Dec 5, 12, 18, 21, 24, 29. 1907. Jan 10, 16, 18, 28. Feb 2, 4, 5, 6, 11, 13, 14, 15, 16, 18, 19.*
 Total No. of visits *55* Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " "
 Dates of Examination of principal parts—Cylinders *16/2/07* Slides *21/12/06* Covers *16/2/07* Pistons *21/12/06* Rods *19/2/07*
 Connecting rods *21/12/06* Crank shaft *21/12/06* Thrust shaft *16/1/07* Tunnel shafts *16/1/07* Screw shaft *16/1/07* Propeller *13/2/07*
 Stern tube *12/12/06* Steam pipes tested *4th Feb '07* Engine and boiler seatings *6th Feb '07* Engines holding down bolts *6th Feb '07*
 Completion of pumping arrangements *14th Feb 1907* Boilers fixed *13th Feb 1907* Engines tried under steam *16th Feb 1907*
 Main boiler safety valves adjusted *13th Feb 1907* Thickness of adjusting washers *P.V. 13 3/4" 5.7 1/2" P.V. 13 3/4" 5.7 1/2"*
 Material of Crank shaft *Steel* Identification Mark on Do. *1122* Material of Thrust shaft *Steel* Identification Mark on Do. *434*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *438-441* Material of Screw shafts *Steel* Identification Marks on Do. *435*
 Material of Steam Pipes *Copper S.D. 4 W.G.* Test pressure *400 lb*

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

The Engines and Boilers of this vessel have been built under Special Survey and the workmanship and materials appeared good.

*When completed the machinery was examined while running full power trials in the Firth and found to work satisfactorily. It is now in good and efficient condition and eligible in my opinion to have the record of **LMC 2.07** marked in the Society's Register Book.*

*It is submitted that this vessel is eligible for THE RECORD **LM.C. 2.07** F.D.*

The amount of Entry Fee.. £ *3* : : : When applied for, *20/2/07*
 Special .. £ *40* : : : *20/2/07*
 Donkey Boiler Fee .. £ : : : When received, *20/2/07*
 Travelling Expenses (if any) £ : : : *20/2/07*

Committee's Minute *Glasgow 25 FEB 1907*

Assigned *L.M.C. 2.07.*

MACHINERY CERTIFICATE WRITTEN 26.2.07



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Lloyd's Register Foundation

Greenock

Certificate (if required) to be sent to

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