

REPORT ON MACHINERY.

No. 15251

Port of Greenock

Received at London Office **TUES. 12 NOV 1907**

No. in Survey held at Port Glasgow Date, first Survey 23rd May Last Survey 6th November 1907

Reg. Book. on the SCREW STEAMER KOOYONG. (Number of Visits 44)

Master McDonald Built at Port Glasgow. By whom built Glyde S.B. & Eng. Co. Ltd. When built 1904. Tons { Gross 2295.52 Net 1392.63

Engines made at Port Glasgow. By whom made Glyde S.B. & Eng. Co. Ltd. when made 1904.

Boilers made at Port Glasgow. By whom made Glyde S.B. & Eng. Co. Ltd. when made 1904.

Registered Horse Power _____ Owners _____ Port belonging to Melbourne.

Nom. Horse Power as per Section 28 264 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion. No. of Cylinders Three No. of Cranks Three.

Dia. of Cylinders 22-34-61. Length of Stroke 42 Revs. per minute 76 Dia. of Screw shaft as per rule 12.5 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 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 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 62

Dia. of Tunnel shaft as per rule 11.2 Dia. of Crank shaft journals as per rule 11.46 Dia. of Crank pin 12.5 Size of Crank webs 22 1/2 Dia. of thrust shaft under collars 12 1/4 Dia. of screw 15.6 Pitch of Screw 18.0 No. of Blades 4 State whether moceable No. Total surface 80 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 21 Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 21 Can one be overhauled while the other is at work Yes.

No. of Donkey Engines 2 Sizes of Pumps 6x4 1/2 x 6, 4x2 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps _____

In Engine Room Four: 3 1/2" dia. In Holds, &c. No. 1 Hold: Two 3 1/2" dia. No. 2 Hold: Two 3 1/2" dia. No. 3 Hold: Two 3 1/2" dia. No. 4 Hold: Two 3 1/2" dia. No. 5 Hold: Two 3 1/2" dia. No. 6 Hold: Two 3 1/2" dia. No. 7 Hold: Two 3 1/2" dia. No. 8 Hold: Two 3 1/2" dia. No. 9 Hold: Two 3 1/2" dia. No. 10 Hold: Two 3 1/2" dia. No. 11 Hold: Two 3 1/2" dia. No. 12 Hold: Two 3 1/2" dia. No. 13 Hold: Two 3 1/2" dia. No. 14 Hold: Two 3 1/2" dia. No. 15 Hold: Two 3 1/2" dia. No. 16 Hold: Two 3 1/2" dia. No. 17 Hold: Two 3 1/2" dia. No. 18 Hold: Two 3 1/2" dia. No. 19 Hold: Two 3 1/2" dia. No. 20 Hold: Two 3 1/2" dia. No. 21 Hold: Two 3 1/2" dia. No. 22 Hold: Two 3 1/2" dia. No. 23 Hold: Two 3 1/2" dia. No. 24 Hold: Two 3 1/2" dia. No. 25 Hold: Two 3 1/2" dia. No. 26 Hold: Two 3 1/2" dia. No. 27 Hold: Two 3 1/2" dia. No. 28 Hold: Two 3 1/2" dia. No. 29 Hold: Two 3 1/2" dia. No. 30 Hold: Two 3 1/2" dia. No. 31 Hold: Two 3 1/2" dia. No. 32 Hold: Two 3 1/2" dia. No. 33 Hold: Two 3 1/2" dia. No. 34 Hold: Two 3 1/2" dia. No. 35 Hold: Two 3 1/2" dia. No. 36 Hold: Two 3 1/2" dia. No. 37 Hold: Two 3 1/2" dia. No. 38 Hold: Two 3 1/2" dia. No. 39 Hold: Two 3 1/2" dia. No. 40 Hold: Two 3 1/2" dia. No. 41 Hold: Two 3 1/2" dia. No. 42 Hold: Two 3 1/2" dia. No. 43 Hold: Two 3 1/2" dia. No. 44 Hold: Two 3 1/2" dia. No. 45 Hold: Two 3 1/2" dia. No. 46 Hold: Two 3 1/2" dia. No. 47 Hold: Two 3 1/2" dia. No. 48 Hold: Two 3 1/2" dia. No. 49 Hold: Two 3 1/2" dia. No. 50 Hold: Two 3 1/2" dia. No. 51 Hold: Two 3 1/2" dia. No. 52 Hold: Two 3 1/2" dia. No. 53 Hold: Two 3 1/2" dia. No. 54 Hold: Two 3 1/2" dia. No. 55 Hold: Two 3 1/2" dia. No. 56 Hold: Two 3 1/2" dia. No. 57 Hold: Two 3 1/2" dia. No. 58 Hold: Two 3 1/2" dia. No. 59 Hold: Two 3 1/2" dia. No. 60 Hold: Two 3 1/2" dia. No. 61 Hold: Two 3 1/2" dia. No. 62 Hold: Two 3 1/2" dia. No. 63 Hold: Two 3 1/2" dia. No. 64 Hold: Two 3 1/2" dia. No. 65 Hold: Two 3 1/2" dia. No. 66 Hold: Two 3 1/2" dia. No. 67 Hold: Two 3 1/2" dia. No. 68 Hold: Two 3 1/2" dia. No. 69 Hold: Two 3 1/2" dia. No. 70 Hold: Two 3 1/2" dia. No. 71 Hold: Two 3 1/2" dia. No. 72 Hold: Two 3 1/2" dia. No. 73 Hold: Two 3 1/2" dia. No. 74 Hold: Two 3 1/2" dia. No. 75 Hold: Two 3 1/2" dia. No. 76 Hold: Two 3 1/2" dia. No. 77 Hold: Two 3 1/2" dia. No. 78 Hold: Two 3 1/2" dia. No. 79 Hold: Two 3 1/2" dia. No. 80 Hold: Two 3 1/2" dia. No. 81 Hold: Two 3 1/2" dia. No. 82 Hold: Two 3 1/2" dia. No. 83 Hold: Two 3 1/2" dia. No. 84 Hold: Two 3 1/2" dia. No. 85 Hold: Two 3 1/2" dia. No. 86 Hold: Two 3 1/2" dia. No. 87 Hold: Two 3 1/2" dia. No. 88 Hold: Two 3 1/2" dia. No. 89 Hold: Two 3 1/2" dia. No. 90 Hold: Two 3 1/2" dia. No. 91 Hold: Two 3 1/2" dia. No. 92 Hold: Two 3 1/2" dia. No. 93 Hold: Two 3 1/2" dia. No. 94 Hold: Two 3 1/2" dia. No. 95 Hold: Two 3 1/2" dia. No. 96 Hold: Two 3 1/2" dia. No. 97 Hold: Two 3 1/2" dia. No. 98 Hold: Two 3 1/2" dia. No. 99 Hold: Two 3 1/2" dia. No. 100 Hold: Two 3 1/2" dia.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. 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 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 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.

Dates of examination of completion of fitting of Sea Connections 18/9/04. of Stern Tube 18/9/04. Screw shaft and Propeller 18/9/04.

Is the Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from Upper platform.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Steel Coy of Scotland.

Total Heating Surface of Boilers 4110 Is Forced Draft fitted No. No. and Description of Boilers 2: Cylindrical: Single Ended.

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 4/10/04. No. of Certificate 853.

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: Direct Spring. Area of each valve 4.06 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 14" Mean dia. of boilers 15.6" Length 10.9" Material of shell plates Steel

Thickness 1 1/32" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Lap Double

long. seams Butt Straps Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 10.5.3.3" Lap of plates or width of butt straps 1.10 1/2"

Per centages of strength of longitudinal joint rivets 98.4 Working pressure of shell by rules 208 lb Size of manhole in shell 16" x 12"

Size of compensating ring 34 x 28 x 1 1/2" No. and Description of Furnaces in each boiler 3: Deighton's. Material Steel Outside diameter 49 1/2"

Length of plain part top 6.8 Thickness of plates bottom 8 Description of longitudinal joint Weld. No. of strengthening rings None

Working pressure of furnace by the rules 214 lb Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 7/8"

Pitch of stays to ditto: Sides 8 x 9" Back 8 1/2 x 8 1/2" Top 8 1/4 x 8" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 184 lb

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 73 Working pressure by rules 192 lb End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 16 1/2 x 18 1/2" How are stays secured Double nuts. Working pressure by rules 184 lb Material of stays Steel

Diameter at smallest part 3.09" Area supported by each stay 302 Working pressure by rules 248 lb Material of Front plates at bottom Steel

Thickness 7/16" Material of Lower back plate Steel Thickness 3/8" Greatest pitch of stays 13 1/4" Working pressure of plate by rules 214 lb

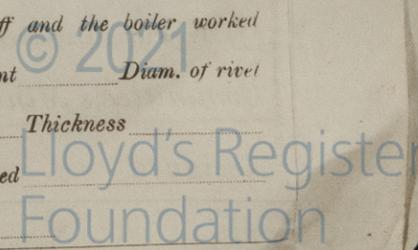
Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 1/2 x 4 1/2" Material of tube plates Steel Thickness: Front 1/8" Back 1/8" Mean pitch of stays 10.8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 215 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/4 x 1 1/4" Length as per rule 39.6" Distance apart 8 1/4" Number and pitch of stays in each 3: 8"

Working pressure by rules 184 lb. 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			
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
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
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:— 1 Propeller and shaft, 1 HP piston valve, Air and Circulating pump rods, Ramboffanti Rings for each piston, 50 Boiler tubes, 50 Condenser tubes, 2 sets each Air circulating pump valves, 1 set Crank pin bushes, 2 Safety valve springs, 2 main Boiler Check valves, 1 set Relief valve springs, piston Rod gland, slide guide and best of spare gear required by the Rules.

The foregoing is a correct description,

THE ONBE SHIPBUILDING & ENGINEERING CO. LIMITED,

Manufacturer.

John S. Dunlop

Dates of Survey while building: During progress of work in shops— 1907. May 23, 24, 28, June 3, 4, 10, 13, 17, 21, 25, July 1, 18, 23, 25, 29, 31, Aug. 5, 13, 16, 21, 23, 24, 29, Sep 2, 5, 6, 10, 16, 17, 18, 20, 24, 30, Oct 3, 4, 8, 12, 14, 21, 22, 24, 30, 31, Nov. 6

During erection on board vessel—

Total No. of visits: *44*

Is the approved plan of main boiler forwarded herewith Yes—

Is the approved plan of main boiler forwarded herewith " donkey " " " Yes—

Dates of Examination of principal parts—Cylinders 2/10/07 Slides 8/10/07 Covers 3/11/07 Pistons 23/8/07 Rods 23/8/07 Connecting rods 8/10/07 Crank shaft 23/8/07 Thrust shaft 8/10/07 Tunnel shafts 8/10/07 Screw shaft 20/10/07 Propeller 20/10/07 Stern tube 28/10/07 Steam pipes tested 24/10/07 Engine and boiler seatings 17/10/07 Engines holding down bolts 27/10/07 Completion of pumping arrangements 30/10/07 Boilers fixed 22/10/07 Engines tried under steam 31/10/07 Main boiler safety valves adjusted 30/10/07 Thickness of adjusting washers *Start Boiler Et. 2 1/2 Pl. 8" Port Boiler Pl. 4 1/2 SV. 32 Dia. Rivet*

Material of Crank shaft *Steel* Identification Mark on Do. *597* Material of Thrust shaft *Steel* Identification Mark on Do. *598*

Material of Tunnel shafts *Steel* Identification Marks on Do. *599-603* Material of Screw shafts *Steel* Identification Marks on Do. *604*

Material of Steam Pipes *Copper* Test pressure *400 lbs.*

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 materials and workmanship are good. When completed they were examined under steam, while running full power trials and found to work satisfactorily.

The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC. 11, 07.** marked in the Society's Register Book.

It is submitted that this vessel is eligible for **THE RECORD** + LMC 11-07.

Elec light

JPM
13/11/07

The amount of Entry Fee.. £ 2 : :
Special £ 33 . 4/- : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :

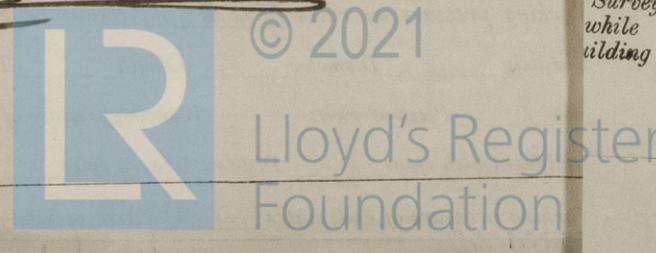
When applied for, 8th Nov. 1907
When received, 11. 11. 07

Wm R. Austin
12/11/07
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned **+ LMC 11, 07**

Glasgow 11 NOV 1907



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