

YACHT.

REPORT ON MACHINERY.

No. ~~26610~~ ⁸⁶¹⁷

Rpt. 4.

Port of Glasgow

Received at London Office WED. 20 MAY 1906

No. in Survey held at Paisley Date, first Survey 11th October 1907 Last Survey 15th May 1908

Reg. Book. on the Twin screw steam yacht "D. Laura" (Number of Visits 42.)

Master Built at Paisley By whom built Fleming & Ferguson & Co. Ltd. Tons Gross Net When built 1908

Engines made at Paisley By whom made Fleming & Ferguson & Co. Ltd. (373) when made 1908

Boilers made at ditto By whom made ditto when made 1908

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 226 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion (2 Sets) No. of Cylinders 6 No. of Cranks 6

Dia. of Cylinders 15"-24"-39" Length of Stroke 24" Revs. per minute 150 Dia. of Screw shaft as per rule 7.99" Material of screw shaft as fitted 8" Material of screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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

liners are fitted, is the shaft lapped or protected between the liners Protected Length of stern bush 3'-0"

Dia. of Tunnel shaft as per rule 4.11" Dia. of Crank shaft journals as per rule 7.45" Dia. of Crank pin 7.3/4" Size of Crank webs 1 1/2" Dia. of thrust shaft under collars 7 1/2" Dia. of screw 8.3" Pitch of Screw 10.9" No. of Blades 3 State whether moveable Yes Total surface 22.5"

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes

No. of Donkey Engines one Sizes of Pumps 9x6x10, 8x6x18 Pair No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" In Holds, &c. Stokehold Two 2" Forehold one 2 1/4" Centre

No. of Bilge Injections 2 sizes 4" 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

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Ball

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 Below

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 Bilge, Ballast & Maindon Steam 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 25. 2. 08 of Stern Tube 10. 2. 08 Screw shaft and Propeller 25. 2. 08

Is the Screw Shaft Tunnel watertight Apparently Is it fitted with a watertight door Yes worked from Upper Engine Room Platform

BOILERS, &c.—(Letter for record (S(S) Manufacturers of Steel Beardmore & Gledbridge Steel Co)

Total Heating Surface of Boilers 3504.8^{sq} Is Forced Draft fitted Yes No. and Description of Boilers 2 Single Ended

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 25. 2. 08 No. of Certificate 9319

Can each boiler be worked separately Yes Area of fire grate in each boiler 45.83^{sq} No. and Description of Safety Valves to each boiler 2 Direct Spring Area of each valve 7.068^{sq} Pressure to which they are adjusted 180 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Sunal fut Mean dia. of boilers 11.0" Length 13.0" Material of shell plates

Thickness 1 1/16" Range of tensile strength 28/32 Are the shell plates welded or flanged Descrip. of riveting: cir. seams DR

long. seams TR-DBS Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 3/4" Lap of plates or width of butt straps 16 1/2"

Per centages of strength of longitudinal joint rivets 89.4% plate 85.5% Working pressure of shell by rules 214 Size of manhole in shell 16" x 12"

Size of compensating ring 30" x 26" x 1 1/16" No. and Description of Furnaces in each boiler 2 Motion Material S Outside diameter 3.12 1/4"

Length of plain part top bottom Thickness of plates crown bottom 9 1/16" Description of longitudinal joint weld No. of strengthening rings

Working pressure of furnace by the rules 192 Combustion chamber plates: Material S Thickness: Sides 7/16" Back 19/32" Top 7/8" Bottom 7/16"

Pitch of stays to ditto: Sides 8 x 8 1/2" Back 7 1/2 x 8 3/4" Top 8 x 8" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 193

Material of stays S Diameter at smallest part 2.02" Area supported by each stay 68" Working pressure by rules 183 End plates in steam space:

Material S Thickness 3 1/32" Pitch of stays 15 1/2 x 14 1/2" How are stays secured 0 9 1/4" Working pressure by rules 184 Material of stays S

Diameter at smallest part 4.56" Area supported by each stay 224.75" Working pressure by rules 182 Material of Front plates at bottom S

Thickness 1 3/16" Material of Lower back plate S Thickness 1 1/16" Greatest pitch of stays 12 (13) Working pressure of plate by rules

Diameter of tubes 2 1/2" Pitch of tubes 3 1/2 x 3 1/2" Material of tube plates S Thickness: Front 1 3/16 x 9/16" Back 1 1/16" Mean pitch of stays 8 3/4"

Pitch across wide water spaces 12 1/2" Working pressures by rules 200 Girders to Chamber tops: Material S Depth and thickness of girder at centre 6 3/4 x 1 1/16 (2) Length as per rule 25 3/4" Distance apart 8" Number and pitch of stays in each 2 at 8"

Working pressure by rules 183 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

W1070-0230
-0232

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 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 Connecting Rod Bolts (top & bottom ends) 2 Main Bearing Bolts. 1 Set of Coupling Bolts, 1 Set of Feed & Pelge Pump Bolts. 1 Set Piston Ring Washers 1 Crank Shaft. 1 Propeller Shaft. 1 Set of Propeller Bolts. 1 Stern Wash 1 Pair of Bolts for Connecting Rod top & bottom ends 2 Securing Bolts. 1 Air Pump Rod. 1 Gate Spindle.

The foregoing is a correct description,

FOR FLEMING & FERGUSON, LIMITED.

Manufacturer.

E. J. Dunlop

Dates of Survey while building	During progress of work in shops—	1907 Oct. 11. 16. 22. 24. Nov. 1. 5. 11. 19. 20. Dec. 2. 6. 12. 19. 27. 1908 Jan. 8. 10. 15. 17. 23. 29.
	During erection on board vessel—	Feb. 3. 6. 7. 10. 18. 21. 25. 26. Mar. 9. 11. 17. 25. 27. 31. Apr. 9. 11. 22. 24. May. 1. 8. 13. 15.
	Total No. of visits	42

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—	Cylinders 17-1-08	Slides 25-11-07	Covers 25-11-07	Pistons 25-1-08	Rods 25-11-07
Connecting rods	25-1-08	Crank shaft 7-2-08	Thrust shaft 7-2-08	Tunnel shafts 7-2-08	Screw shaft 7-2-08
Stern tube	7-2-08	Steam pipes tested 11-4-08	Engine and boiler seatings 26-2-08	Engines holding down bolts 17-3-08	
Completion of pumping arrangements	25-3-08	Boilers fixed 17-3-08	Engines tried under steam 15-5-08		
Main boiler safety valves adjusted	May 10 1908	Thickness of adjusting washers	PV 1 1/16	P. B 5/16	PV 1 1/16
Material of Crank shaft	\$	Identification Mark on Do.	W.G.M	Material of Thrust shaft	\$
Material of Tunnel shafts	\$	Identification Marks on Do.	ditto	Material of Screw shafts	\$
Material of Steam Pipes	Steel	Test pressure	540 lbs	Identification Marks on Do.	ditto

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

These Engines & Boilers have been constructed & fitted on board under Special Survey in accordance with the approved plan. The workmanship & material are of good quality. The machinery is in my opinion eligible for the record + LMC-5-08

It is submitted that this vessel is eligible for THE RECORD + LMC-5-08

Electric Light FD

The amount of Entry Fee..	£	:	:	When applied for,
Special	£	31	6	11/5/08
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	20/5/08

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

Committee's Minute Glasgow 19 MAY 1908

Assigned + LMC 5.08

FD



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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.)