

REPORT ON MACHINERY.

No. 14195.

8.3.05

Port of Greenock

Received at London Office

1 JUL 7 1905

No. in Survey held at Port Glasgow

Date, first Survey 5th Aug. 1904 Last Survey 27th Feb. 1905

Reg. Book.

(Number of Visits 5)

on the Screw Steamer Ashridge

Tons ^{Gross}
 _{Net}

Master H. Macdonald. Built at Port Glasgow By whom built A. Hamilton & Co.

When built 1905

Engines made at Port Glasgow By whom made Glyde Shipbuilding & Engineering Co. Ltd. when made 1905

Boilers made at Port Glasgow By whom made Glyde Shipbuilding & Engineering Co. Ltd. when made 1905

Registered Horse Power _____ Owners M. Swath, W. Easman Proprietors belonging to London

Nom. Horse Power as per Section 28 284 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 24" - 40" - 65" Length of Stroke 42" Revs. per minute 70 Dia. of Screw shaft 1 1/4" 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 Yes. Length of stern bush 5'0"

Dia. of Tunnel shaft 11'8" Dia. of Crank shaft journals 12'4" Dia. of Crank pin 13" Size of Crank webs 8 x 2 1/2" Dia. of thrust shaft under collars 13" Dia. of screw 16'6" Pitch of screw 14'6" No. of blades 4 State whether moveable No. Total surface 80.6 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 Three Sizes of Pumps (8 x 5 x 8) (8 x 8 x 8) (4 x 2 1/2 x 5) No. and size of Suctions connected to both Bilge and Donkey pumps all duplex

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. 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" 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 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 Yes.

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.

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Now Vessel. Is the screw shaft tunnel watertight Yes.

Is it fitted with a watertight door Yes worked from Upper platform.

BOILERS, &c.— (Letter for record R.) Total Heating Surface of Boilers 4290 sq. ft. Is forced draft fitted No.

No. and Description of Boilers 2: Cylindrical Shell Single Ended Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.

Date of test 23/12/04 Can each boiler be worked separately Yes. Area of fire grate in each boiler 56 sq. ft. No. and Description of safety valves to each boiler 2: Direct Spring Area of each valve 5.9 sq. in. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork About 12" Mean dia. of boilers 15'6" Length 10'9" Material of shell plates Steel

Thickness 1/4" Range of tensile strength 28-32 tons Are they welded or flanged No Descrip. of riveting: cir. seams Lap Double long. seams Double Butt Straps

Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 3/8" Lap of plates or width of butt straps 1' 1/2"

Per centages of strength of longitudinal joint rivets 85-1 Working pressure of shell by rules 179 lbs. Size of manhole in shell 16 x 12"

Size of compensating ring 24 x 33 x 1 1/4" No. and Description of Furnaces in each boiler 3: Deighton's Material Steel Outside diameter 49 3/4"

Length of plain part 6'9" Thickness of plates 19" Description of longitudinal joint Weld. No. of strengthening rings None.

Working pressure of furnace by the rules 189 lbs. Combustion chamber plates: Material Steel Thickness: Sides 19/2" Back 5/8" Top 19/32" Bottom 17/16"

Pitch of stays to ditto: Sides 8 x 8 3/8" Back 8 1/2 x 8 3/8" Top 8 x 8" If stays are fitted with nuts or riveted heads Auto. Working pressure by rules 182 lbs.

Material of stays Iron. Diameter at smallest part 1 5/8" Area supported by each stay 64 sq. in. Working pressure by rules 212 lbs. End plates in steam space:

Material Steel Thickness 1 3/32" Pitch of stays 16 x 16 1/2" How are stays secured Double nuts. Working pressure by rules 181 lbs. Material of stays Steel

Diameter at smallest part 2 1/16" Area supported by each stay 264 sq. in. Working pressure by rules 239 lbs. Material of Front plates at bottom Steel

Thickness 3/4" Material of Lower back plate Steel Thickness 3/2" Greatest pitch of stays 14" Working pressure of plate by rules 182 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 4 3/8" x 4 5/8" Material of tube plates Steel Thickness: Front 3/4" Back 1/2" Mean pitch of stays 10.8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 216 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2 x 1 1/2" Length as per rule 34 5/8" Distance apart 8" Number and pitch of Stays in each 3: 8"

Working pressure by rules 182 lbs. 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 _____

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



DONKEY BOILER— No. *One* Description *Cylindrical built Single Ended*
 Made at *Port Glasgow* By whom made *Clyde Shipbuilding Co. Ltd.* When made *28/12/04* Where fixed *In Stockhold.*
 Working pressure *100 lbs* tested by hydraulic pressure to *200 lbs* No. of Certificate *667* Fire grate area *31* Description of safety valves *Direct Spring*
 No. of safety valves *2* Area of each *5.9* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *10' 0"* Length *10' 0"* Material of shell plates *Steel* Thickness *9/16"* Range of tensile strength *28-32 tons* Descrip. of riveting long. seams *Double Butt Chaps* Dia. of rivet holes *3/4"* Whether punched or drilled *Drilled* Pitch of rivets *2 1/2" 4 1/2"*
 Lap of plating *8 1/8"* Per centage of strength of joint Rivets *82.1* Thickness of shell plates *1 1/16"* Radius of do. pitch No. of Stays to do. *14 1/2" 1 1/2"*
 Dia. of stays. *1 1/8" bare* Diameter of furnace Top *29 1/4"* Bottom *Common Cyl.* Length of furnace *6' 3"* Thickness of furnace plates *1 1/32"* Description of joint *RTS Single* Thickness of furnace crown plates *1/2"* Stayed by *1 3/8" Stay 7x8" 8 1/2 x 8 1/2" 7 1/2 x 7 1/2"* Working pressure of shell by rules *100 lbs*
 Working pressure of furnace by rules *100 lbs* Diameter of tubes *3"* Thickness of tubes plates *3/4"* Thickness of water tubes *5/16"*

SPARE GEAR. State the articles supplied:— *Propeller shaft, propeller, 1 set Crank pin bushes, 1 set Crosshead bushes, 2 main Boiler tubes, 6 Donkey Boiler tubes, 2 main Bearing Bolts, 2 Crosshead Bolts, 2 Crank pin Bolts, 1 set Coupling Bolts, 3 set piston Rings Feed & Bilge pump valves, Bolts & Iron of assorted sizes.*
 The foregoing is a correct description, **THE CLYDE SHIPBUILDING & ENGINEERING CO. LIMITED,**
 Manufacturer. *John S. Dunlop* *Asst. Secretary*

Dates of Survey while building	During progress of work in shops—	<i>1904 Aug 5. Sep 6. 8. 9. 14. 20. 21. 26. 27. Oct 3. 12. 13. 17. 19. 24. 25. 31. Nov 3. 8. 14. 17. 23.</i>	Is the approved plan of main boiler forwarded herewith	<i>Yes.</i>
	During erection on board vessel —	<i>28. 30. Dec 5. 7. 8. 9. 13. 16. 20. 22. 23. 27. 30. -1905- Jan 9. 10. 11. 12. 20. 23. 27. 30 Feb 1. 7. 9. 10</i>		<i>Yes.</i>
	Total No. of visits	<i>51</i>		<i>Yes.</i>

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 while running full power trials in the Ditch 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 2,05** marked in the Society's Register Book.*

It is submitted that this vessel is eligible for **THE RECORD** **LM.C. 2.05** **ELEC. LIGHT.**

Emd.
7.3.05
8.3.05

The amount of Entry Fee..	£ 2	When applied for,	<i>27/24 1904</i>
Special	£ 34	When received,	<i>1/31 1904</i>
Donkey Boiler Fee	£ :		
Travelling Expenses (if any) £	:		

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

Committee's Minute *Glasgow - 6 MAR 1905*
 Assigned *+ L.M.C. 2,05.*



Certificate (if required) to be sent to