

REPORT ON MACHINERY.

No. 14906.

Port of *Greenock*Received at London Office *TUES. NOV 13th 1906*No. in Survey held at *Greenock*Date, first Survey *10th Jan 1906* Last Survey *2nd Nov 1906*

Reg. Book.

"BARDISTAN"(Number of Visits *73*)Tons { Gross *3887.51*
Net *2500.74*on the *SCREW STEAMER*Master *Davies* Built at *Greenock* By whom built *Scott's S.B. & Eng. Co. Ltd.* When built *1906*Engines made at *Greenock* By whom made *Scott's S.B. & Eng. Co. Ltd.* when made *1906*Boilers made at *Greenock* By whom made *Scott's S.B. & Eng. Co. Ltd.* when made *1906*Registered Horse Power *370* Owners *Anglo-Algerian Steamship Co. Ltd.* Port belonging to *Swansea*Nom. Horse Power as per Section 28 *370* 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 *25"-40"-64"* Length of Stroke *45"* Revs. per minute *75* Dia. of Screw shaft *as per rule 13.92* Material of *Steel*
as fitted 14 1/2" screw shaftIs 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 *Yes* 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 *54"*Dia. of Tunnel shaft *as per rule 12.4* Dia. of Crank shaft journals *as per rule 13.05* Dia. of Crank pin *13 1/2"* Size of Crank webs *19 1/2" x 8 1/2"* Dia. of thrust shaft undercollars *13 1/2"* Dia. of screw *14 1/2"* Pitch of Screw *16 1/2"* No. of Blades *4* State whether moveable *No* Total surface *90 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 *Yes* *Two main feed pumps*
*2 9 1/2" x 4" x 18"*No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *Three* Sizes of Pumps *7 1/2" x 6"* *9 1/2" x 10"* *5 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room & Stokehold: *Five 3 1/2" dia. & Two 2 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. & Two 2 1/2" dia. No. 4 Hold: Two 3 1/2" dia. No. 5 Hold: Two 3 1/2" dia. Tunnel Well: one 5" 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 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 of Stern Tube Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *upper platform*OILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Steel Coy of Scotland*Total Heating Surface of Boilers *5040* Is Forced Draft fitted *Yes* No. and Description of Boilers *Two: Cylindrical: Multi-Simplex Sued.*Working Pressure *180 lbs.* Tested by hydraulic pressure to *360 lbs.* Date of test *16/3/06* No. of Certificate *455-6*Can each boiler be worked separately *Yes* Area of fire grate in each boiler *55.5 sq. ft.* No. and Description of Safety Valves toeach boiler *2: Direct Spring* Area of each valve *8.29"* 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 18"* Mean dia. of boilers *14 1/2"* Length *11 1/2"* Material of shell plates *Steel*Thickness *1 3/16"* 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 *Old Butt Strap* Diameter of rivet holes in long. seams *1 3/16"* Pitch of rivets *8 1/2"* *4 1/2"* Lap of plates or width of butt straps *1 1/2"*Per centages of strength of longitudinal joint rivets *85* Working pressure of shell by rules *181 lbs.* Size of manhole in shell *16" x 12"*Size of compensating ring *38" x 30" x 1 3/16"* No. and Description of Furnaces in each boiler *3: Morrison's* Material *Steel* Outside diameter *45"*Length of plain part top *8 1/2"* Thickness of plates crown *1 1/4"* Description of longitudinal joint *Weld* No. of strengthening rings *None*Working pressure of furnace by the rules *182 lbs.* Combustion chamber plates: Material *Steel* Thickness: Sides *3/32"* Back *1/32"* Top *1/32"* Bottom *3/4"*Pitch of stays to ditto: Sides *7/8" x 8 1/2"* Back *7/8" x 8 1/2"* Top *7/8" x 8 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *184 lbs.*Material of stays *Steel* Diameter at smallest part *1 3/8"* Area supported by each stay *65"* Working pressure by rules *180 lbs.* End plates in steam space:Material *Steel* Thickness *1"* Pitch of stays *15" x 16 1/2"* How are stays secured *Old hook washers* Working pressure by rules *191 lbs.* Material of stays *Steel*Diameter at smallest part *2 1/4"* Area supported by each stay *24 1/4"* Working pressure by rules *189 lbs.* Material of Front plates at bottom *Steel*Thickness *1 1/8"* Material of Lower back plate *Steel* Thickness *1 1/8"* Greatest pitch of stays *15 1/4"* Working pressure of plate by rules *184 lbs.*Diameter of tubes *2 1/2"* Pitch of tubes *5 1/8" x 3 1/8"* Material of tube plates *Steel* Thickness: Front *1 1/8"* with Back *1 1/8"* Mean pitch of stays *11 3/8"*Pitch across wide water spaces *14"* Working pressures by rules *207 lbs.* *183 lbs.* Girders to Chamber tops: Material *Steel* Depth andthickness of girder at centre *9 1/8" x 1 1/2"* Length as per rule *33"* Distance apart *8 1/4"* Number and pitch of stays in each *3: 7/8"*Working pressure by rules *181 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

W795-0038

VERTICAL DONKEY BOILER— *Manufacturers of Steel*

No.	Description
✓	See second sheet

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:— Propeller, 2 Connecting Rod Bolt & nuts, 2 Piston Rod Bolt & nuts, 2 Main Bearing Bolt & nuts, 1 set Coupling Bolt & nuts, 1 set each Feed & Bilge pump valves, 1 Main & D/Ky Boiler Check valve, 2 Eccentric Strap Bolts, 1 pair Crosshead Brasses 1 set Connecting Rod Brasses, 1 Slide Spindles for L.P. Eng, 1 Feed Escape valve spring, 2 Main Boiler Safety valve Springs 6 Cylor Valve Stem nuts, 6 Casing Cover studs & nuts, One Sail Chaff complete, 24 Condenser tubes, 12 Boiler tubes, 1 set H.P. Piston Ring, 12 Junk Ring Bolts, Four Bars White Metal, 100 jointing Rods etc etc.

The foregoing is a correct description.

SCOTT'S SHIPBUILDING & ENGINEERING CO. LIMITED 24

Manufacturer.

Assistant Secretary; 1906. Jan 10. 12. 13. 19. 23. 26. 31. Feb 5. 12. 15. 19. 28. March 2. 6.
 12. 14. 15. 16. 20. 22. 26. 27. April 2. 6. 10. 16. 20. 25. 30. May 4. 7. 10.
 Dates of Survey while building { During progress of work in shops - - 16. 18. 23. 30. 31. June 5. 7. 12. 14. 18. 20. 26. 28. July 18. 21. Aug 7. 9. 14. 16. 17. 21. 28.
 { During erection on board vessel - - 29. Sep 3. 5. 12. 18. 24. 27. Oct 1. 4. 5. 9. 10. 11. 16. 18. 25. 31. Nov 1. 2
 Total No. of visits 73.

Is the approved plan of main boiler forwarded herewith *Yes*

Is the approved plan of main boiler forwarded herewith *Yes.*

” ” ” *donkey* ” ” *Yes*

Dates of Examination of principal parts—Cylinders..... Slides..... Covers..... Pistons..... Rods.....

Connecting rods.....Crank shaft.....Thrust shaft.....Tunnel shafts.....Screw shaft.....Propeller.....

Stern tube Steam pipes tested 18/10/06 Engine and boiler seatings 28/10/06 Engines holding down bolts 28/10/06

Completion of pumping arrangements 31/10/06. Boilers fixed 25/10/06. Engines tried under steam 1/11/06. R.E.

Main boiler safety valves adjusted 28/10/06. Thickness of adjusting washers MAIN BOILERS. Port. PV. 3 1/2" St. PV. 3 1/2" St. PV. 3 1/2" St. PV. 3 1/2" D&N BOILER. AV. 3 1/2" EV. 3 1/2"

Material of Crank shaft Steel Identification Mark on Do. 395 Material of Thrust shaft Steel Identification Mark on Do. 386

Material of Tunnel shafts Steel Identification Marks on Do. 388-394 Material of Screw shafts Steel Identification Marks on Do. 387

Material of Steam Pipes Copper 8" dia x 5/16" 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 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 11.06** marked in the Society's Register Book.

It is submitted that
this vessel is eligible for
THE RECORD *Imo*

U.L.M.C. 11.06. F.D. ELEC: LIGHT

The amount of Entry Fee..	£ 3	:	:	When applied for,
Special	£ 38	:	10	2/11/1900
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	8/11/1900

Committee's Minute

Assigned

Glasgow 12 NOV 1906

+ L.M.B. 11.00

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

MACHINERY CERTIFICATE
WRITTEN. 13. 11. 06

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Lloyd's Register
Foundation