

## REPORT ON MACHINERY.

Port of *Leith*

MUN 4 SEP 1899

No. in Survey held at *Leith + Anstruther*Date, first Survey *8th Feb*Last Survey *31st August 1899*

Book.

(Number of Visits *26*)on the *S.S. "Cuden Bay"*Gross *124.69*Net *41.04*When built *1899*Built at *Anstruther*By whom built *W. Jarvis*Machinery made at *Leith*By whom made *John Bean & Co*when made *1899*Machinery made at *do*By whom made *do*when made *1899*Registered Horse Power *47*Owners *Thomas Davidson*Port belonging to *Aberdeen*Horse Power as per Section 28 *47*Is Refrigerating Machinery fitted *no*Is Electric Light fitted *no*MACHINERY, &c.—Description of Engines *Compound*No. of Cylinders *2* No. of Cranks *2*Diameter of Cylinders *12" x 30"* Length of Stroke *20"* Revs. per minute *120* Dia. of Screw shaft *as per rule 6.9"* Lgth. of stern bush *27"*Diameter of Tunnel shaft *as per rule 5.34"* Dia. of Crank shaft journals *as per rule 5.9"* Dia. of Crank pin *5.9"* Size of Crank webs *11 x 4"* Dia. of thrust shaft underDiameter of screw *7.6"* Pitch of screw *9' 0"* No. of blades *4* State whether moveable *no* Total surface *15.5*No. of Feed pumps *One* Diameter of ditto *2.5"* Stroke *10"* Can one be overhauled while the other is at work *✓*No. of Bilge pumps *One* Diameter of ditto *2.5"* Stroke *10"* Can one be overhauled while the other is at work *✓*No. of Donkey Engines *One* Sizes of Pumps *4.5" x 2.5" x 4"* No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room *One 2" x 12"* In Holds, &c. *One 2" x 12"*No. of bilge injections *1* sizes *2.5"* Connected to condenser or to circulating pump *yes* Is a separate donkey suction fitted in Engine room & size *yes 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 *no*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*Are the pipes carried through the bunkers *Suction to hold* 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*Were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel* Is the screw shaft/tunnel watertight *none*Is the engine room fitted with a watertight door *✓* worked from *✓*

BOILERS, &amp;c.—

(Letter for record *3*)Total Heating Surface of Boilers *810 sq*Is forced draft fitted *no*No. and Description of Boilers *One multitubular single ended* Working Pressure *140 lbs* Tested by hydraulic pressure to *280 lbs*Date of test *4-8-99* Can each boiler be worked separately *✓* Area of fire grate in each boiler *33 sq* No. and Description of safety valves toboiler *Two, spring* Area of each valve *4.4 sq* Pressure to which they are adjusted *140 lbs* Are they fitted with easing gear *yes*Smallest distance between boilers or uptakes and bunkers or woodwork *6"* Mean dia. of boilers *10' 0.5"* Length *9' 0"* Material of shell plates *Steel*Thickness *3/32"* Range of tensile strength *27/32* Are they welded or flanged *no* Descrip. of riveting: cir. seams *Lap & Riv.* Long. seams *Lap & Riv.*Diameter of rivet holes in long. seams *1"* Pitch of rivets *5.5"* Lap of plates or width of butt straps *10.5"*Percentages of strength of longitudinal joint rivets *87* Working pressure of shell by rules *146 lbs* Size of manhole in shell *16 x 12*Diameter of compensating ring *7 x 4.5"* No. and Description of Furnaces in each boiler *2, Plain* Material *Steel* Outside diameter *38.5"*Length of plain part *top 76"* Thickness of plates *bottom 3/32"* Description of longitudinal joint *S.B.S.S. Riv.* No. of strengthening rings *✓*Working pressure of furnace by the rules *150 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16"* Back *9/16"* Top *9/16"* Bottom *7/8"*Pitch of stays to ditto: Sides *8.5"* Back *8.5" x 8.5"* Top *8.5" x 7"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *151 lbs*Material of stays *Steel* Diameter at smallest part *1.45"* Area supported by each stay *72 sq* Working pressure by rules *161 lbs* End plates in steam space:Material *Steel* Thickness *7/8"* Pitch of stays *15.5"* How are stays secured *S.N. + W.* Working pressure by rules *155 lbs* Material of stays *Steel*Area at smallest part *3.43 sq* Area supported by each stay *220 sq* Working pressure by rules *156 lbs* Material of Front plates at bottom *Steel*Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *13"* Working pressure of plate by rules *160 lbs*Diameter of tubes *3.5"* Pitch of tubes *4.75" x 4.75"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *10.5"*Pitch across wide water spaces *13"* Working pressures by rules *227 lbs* Girders to Chamber tops: Material *Steel* Depth andThickness of girder at centre *5" x 1"* Length as per rule *118"* Distance apart *8.5"* Number and pitch of Stays in each *2-7"*Working pressure by rules *146 lbs* Superheater or Steam chest; how connected to boiler *none* Can the superheater be shut off and the boiler workedseparately *✓* Diameter *✓* Length *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivetPitch of rivets *✓* Working pressure of shell by rules *✓* Diameter of flue *✓* Material of flue plates *✓* Thickness *✓*Strengthened 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 *✓*



**DONKEY BOILER—** No. Description *none*

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers enter the donkey boiler

Dia. of donkey boiler Length Material of shell plates Thickness Range of test 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 Thickness of shell crown plates Radius of do. No. of Stays to do. Plates

Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Descript joint Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

**SPARE GEAR.** State the articles supplied:— *As per Rule*

The foregoing is a correct description,

Manufacturer.



*J. Anderson*

Dates of Survey { During progress of work in shops— 1899. Feb 8. April 5. 15. 20. 26. May 3. 8. 15. 23. 29. June 5. 28. July 5. 7. 15. 21. 27. }  
 { During erection on board vessel— August 3. 4. 5. 10. 14. 16. 21. 23. 31. }  
 building { Total No. of visits 26 }

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

" " " donkey " " *none*

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

The engines & boiler of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam and the boiler safety valves adjusted at the working pressure. The machinery is now in good and safe working condition & eligible in my opinion to have the notation of + L.M.C. 8.99

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.99.

*J.M.* *signed*  
 4/9/99.

The amount of Entry Fee... £ 1 : - +  
 Special ... £ 8 : - +  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : 7 6

When applied for, 1899

When received, 1899

MACHINERY & HULL WRITTEN

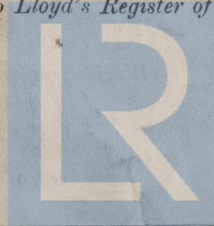
*Thomas Field*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

TUES. 5 SEP 1899

+ L.M.C. 8.99



Lloyd's Register Foundation