

REPORT ON MACHINERY.

Port of *Leith*

MUN 4 SEP 1899

Received at London Office 18

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

Book. on the *S.S. "Cuden Bay"* (Number of Visits *26*)

Master *George King* Built at *Anstruther* By whom built *W. Jarvis* Tons *Gross 124.69*
Net 41.04

Machinery made at *Leith* By whom made *John Bean & Co* When built *1899*

Boilers 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*

Engines, &c.—Description of Engines *Compound* No. of Cylinders *2* No. of Cranks *2*

No. of Cylinders *12* Length of Stroke *20"* Revs. per minute *120* Dia. of Screw shaft *as per rule 6.7"* Lgth. of stern bush *27"*

Dia. of Tunnel shaft *as per rule 5.34"* Dia. of Crank shaft journals *as per rule 5.7"* Dia. of Crank pin *5.7"* Size of Crank webs *11x4"* Dia. of thrust shaft under

of Feed pumps *One* Diameter of ditto *2.5"* Stroke *10"* Can one be overhauled while the other is at work *✓*

of Bilge pumps *One* Diameter of ditto *2.5"* Stroke *10"* Can one be overhauled while the other is at work *✓*

of Donkey Engines *One* Sizes of Pumps *4.5 + 2.5 + 4"* No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *One 2" + jacket 1.5"* In Holds, &c. *One 2" + jacket 1.5"*

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"*

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*

all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *Both*

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*

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*

at pipes are carried through the bunkers *Section to hold* How are they protected *Wood casing*

all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*

the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*

on were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel* Is the screw shaft/tunnel watertight *none*

Is fitted with a watertight door *worked from*

Boilers, &c.— (Letter for record *3*) Total Heating Surface of Boilers *810 sq* Is forced draft fitted *no*

and Description of Boilers *One multitubular single ended* Working Pressure *140 lbs* Tested by hydraulic pressure to *280 lbs*

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 to

boiler *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'-0.55"* 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 *S.B.S. Riv.*

Diameter of rivet holes in long. seams *1"* Pitch of rivets *5.75"* 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 *16x12*

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 *7.6"* bottom *8.0"* Thickness of plates crown *3/32"* bottom *3/32"* Description of longitudinal joint *S.B.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 *7/16"* Top *9/16"* Bottom *7/8"*

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 *157 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*

at smallest part *3.43"* 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 *10.75"*

each across wide water spaces *13"* Working pressures by rules *227 lbs* Girders to Chamber tops: Material *Steel* Depth and

thickness of girder at centre *5" x 1"* Length as per rule *11.8"* 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 worked



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 while building

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.
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. 8199

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8. 99.

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

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

The amount of Entry Fee..	£ 1	:-	+	When applied for,
Special ..	£ 8	:-	→1899
Donkey Boiler Fee ..	£	:	:	When received,
Travelling Expenses (if any) £	7	6		19. 9. 99

MACHINERY & FITTINGS 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.



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