

REPORT ON MACHINERY.

NO. 5470

MON 3 MAY 1897

Port of *Aberdeen*

No. in Survey held at *Aberdeen* Date, first Survey *Jan 26th* Last Survey *April 30th 1897*
Reg. Book. *Aberdeen* (Number of Visits *17*)

on the *Screw steamer "Craig Gowan"* Tons { Gross *125.68*
Net *37.3*
Master *J. Irvine* Built at *Aberdeen* By whom built *Hall Russell & Co* When built *1894*

Engines made at *Aberdeen* By whom made *Hall Russell & Co* when made *1894*

Boilers made at *Aberdeen* By whom made *Hall Russell & Co* when made *1894*

Registered Horse Power *50* Owners *"Craig Gowan" S.S. Co* Port belonging to *Aberdeen*

Nom. Horse Power as per Section 28 *49*

ENGINES, &c.— Description of Engines *Imported Compound* No. of Cylinders *2*
Diameter of Cylinders *13 x 32* Length of Stroke *21"* Revolutions per minute *125* Diameter of Screw shaft as per rule *6"*
as fitted *6 1/4"* Diameter of Tunnel shaft as per rule *5 1/4"* Diameter of Crank shaft journals *6 1/4"* Diameter of Crank pin *6 1/4"* Size of Crank webs *9 1/4 x 4 1/2"*
as fitted *6 1/2"* Diameter of screw *8-6 1/2"* Pitch of screw *10-0"* No. of blades *4* State whether moveable *No* Total surface *28.18 sq ft*
No. of Feed pumps *one* Diameter of ditto *2 1/4"* Stroke *12"* Can one be overhauled while the other is at work *✓*
No. of Bilge pumps *one* Diameter of ditto *2 1/4"* Stroke *12"* Can one be overhauled while the other is at work *✓*
No. of Donkey Engines *one* Sizes of Pumps *4 1/2 x 2 3/4 x 4* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *one 2"* In Holds, &c. *Fore room one 2"*
after compartment one 2" (In addition to the above the 2" feeders draw from all compartments)
No. of bilge injections *one* sizes *3 1/2"* Connected to condenser, &c. 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 *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 to the fore hold* How are they protected *wooden casings*
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 before launching* the screw shaft tunnel watertight *none*
Is it fitted with a watertight door *✓* worked from *✓*

BOILERS, &c.— (Letter for record *8*) Total Heating Surface of Boilers *823 sq ft*
No. and Description of Boilers *one ordinary marine type* Working Pressure *140* Tested by hydraulic pressure to *280*
Date of test *14/4/97* Can each boiler be worked separately *✓* Area of fire grate in each boiler *28 1/2 sq ft* No. and Description of safety valves to
each boiler *2 Spring* Area of each valve *5.94 sq in* 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 *9"* Mean diameter of boilers *10-6"*
Length *9-0"* Material of shell plates *steel* Thickness *13/16"* Description of riveting: circum. seams *double 3/4"* long. seams *double 3/4"*
Diameter of rivet holes in long. seams *1-8"* Pitch of rivets *6 1/2"* Lap of plates or width of butt straps *1-0 1/2 x 13/16 thick*
Per centages of strength of longitudinal joint plate *82.6* Working pressure of shell by rules *144* Size of manhole in shell *16 x 12"*
Size of compensating ring *28 x 13/16"* No. and Description of Furnaces in each boiler *2 Plain* Material *steel* Outside diameter *39 1/4"*
Length of plain part *top 6-0"* Thickness of plates *bottom 9/8"* Description of longitudinal joint *single riveted* No. of strengthening rings *✓*
Working pressure of furnace by the rules *140* Combustion chamber plates: Material *steel* Thickness: Sides *1/2"* Back *1/2"* Top *1/2"* Bottom *9/8"*
Pitch of stays to ditto: Sides *7 1/4"* Back *7 1/4"* Top *7 3/8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *141.5*
Material of stays *steel* Area at smallest part *1.47 sq in* Area supported by each stay *68.0 sq in* Working pressure by rules *147* End plates in steam space:
Material *steel* Thickness *3/32"* Pitch of stays *15 3/8"* How are stays secured *double nut* Working pressure by rules *143* Material of stays *steel*
Diameter at smallest part *3.70"* Area supported by each stay *236 sq in* Working pressure by rules *142.5* Material of Front plates at bottom *steel*
Thickness *13/16"* Material of Lower back plate *steel* Thickness *3/4"* Greatest pitch of stays *11 1/2"* Working pressure of plate by rules *147*
Diameter of tubes *3 1/2"* Pitch of tubes *4 1/4"* Material of tube plates *steel* Thickness: Front *3/8"* Back *3/4"* Mean pitch of stays *10 1/8"*
Pitch across wide water spaces *14 1/4"* Working pressures by rules *145 lbs* Girders to Chamber tops: Material *Iron* Depth and
thickness of girder at centre *5 3/8 x 1 1/2"* Length as per rule *21 3/4"* Distance apart *7 3/8"* Number and pitch of Stays in each *2-7 1/4"*
Working pressure by rules *164 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 *✓*

DONKEY BOILER— 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 can enter the donkey boiler _____

Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long. seams _____ Diameter 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. _____

Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of 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:—

No per rule

The foregoing is a correct description,

Hall Russell & Co Manufacturers

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

Dates of Survey while building: During progress of work in shops— *1897— Jan 26— Feb 11 25— March 9 15 25— April 2 7 14 15 20*
 During erection on board vessel— *" April 21 24 27 28 29 30*
 Total No. of visits *14*

This vessels machinery has been examined during construction & the materials and workmanship found to be good & in accordance with the Rules requirements.

On completion, the engines were seen running under steam, when the safety valves were adjusted to the working pressure with satisfactory results.

She is therefore eligible in my opinion to be classed as regards the machinery, with the notation of +ML-4-97 in the Ref-Book.

The tracing of the Boiler & the Forging Reports are herewith enclosed.

It is submitted that
 this vessel is eligible for
 THE RECORD.

+ L.M.C. 4, 97

4.5.97

4/5/97

Certificate (if required) to be sent to *this office*

The amount of Entry Fee... £ 1 : 0 :
 Special ... £ 8 : 0 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *May 1st 1897*
 When received, *4.5.18.97*

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

Committee's Minute **TUES 4 MAY 1897**

Assigned *+ L.M.C. 4 97*

