

# REPORT ON MACHINERY.

Port of Dundee

held at Dundee

Received at London Office **THURS. 14 JUL 1892**

Date, first Survey Dec 3<sup>rd</sup>

Last Survey July 6<sup>th</sup> 1892

(Number of Visits 25)

S S "Dungeness"

Tons } Gross 1201  
          } Net 514

Built at Dundee

By whom built Gourley Bros & Co

When built 1892

Dundee

By whom made Gourley Bros & Co

when made 1892

Dundee

By whom made Gourley Bros & Co

when made 1892

Horse Power 280

Owners Clyde Spg Co

Port belonging to Glasgow

Nom. Horse Power as per Section 28 273

**ENGINES, &c.** — Description of Engines Triple expansion No. of Cylinders 3

Diameter of Cylinders 24-39-61 Length of Stroke 48 Revolutions per minute \_\_\_\_\_ Diameter of Screw shaft as per rule 11 1/2

Diameter of Tunnel shaft as per rule 11" as fitted 12" Diameter of Crank shaft journals 12 3/4 Diameter of Crank pin 12 3/4 Size of Crank webs 26 x 8 5/8

Diameter of screw 14 1/2 Pitch of screw 21 1/2 No. of blades 4 State whether moveable yes Total surface 60 sq ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 2 1 Patent General Donkey Sizes of Pumps 9-7 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps 8 1/2-6 x 8

Engine Room 3 of 3 1/2 dia In Holds, &c. Fore hold 1 of 3 1/2 Main Hold 1 of 3 1/2

After hold 2 of 3 1/2

No. of bilge injections 1 sizes 8" Connected to condenser, or to circulating pump yes 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

Are pipes carried through the bunkers bilge ballast How are they protected wood casings

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

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

Are stern tube, propeller, screw shaft, and all connections examined in dry dock when vessel Is the screw shaft tunnel watertight yes

Is it closed with a watertight door yes worked from upper deck

**BS, &c.** — (Letter for record ru) Total Heating Surface of Boilers 4321

Description of Boilers Two - single ended - forced draught Working Pressure 150 lbs Tested by hydraulic pressure to 300 lbs

Can each boiler be worked separately yes Area of fire grate in each boiler 48.75 No. and Description of safety valves to 2 Spring loaded

Area of each valve 9.6 sq in Pressure to which they are adjusted 150 lbs Are they fitted with gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 14 1/2"

Material of shell plates steel Thickness 1 1/2 Description of riveting: circum. seams treble lap long. seams double butt 3/2 row

Rivet holes in long. seams 1/4 Pitch of rivets 4 1/2 Lap of plates or width of butt straps 18 1/2"

Strength of longitudinal joint rivets 99.8 Working pressure of shell by rules 153 lbs Size of manhole in shell 18 x 13

plate 83.3

Heating ring McKillo Pat No. and Description of Furnaces in each boiler 3 Purves Material steel Outside diameter 3' 1/4"

part top \_\_\_\_\_ Thickness of plates crown 1 1/2 Description of longitudinal joint welded No. of strengthening rings Purves

bottom \_\_\_\_\_ bottom 1 1/2

Area of furnace by the rules 144 Combustion chamber plates: Material steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 3/4

ditto: Sides 7 1/2 x 7 1/2 Back 7 1/2 x 7 1/2 Top 7 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 148

Material Iron Diameter at smallest part 1 5/8 Area supported by each stay 58.5 Working pressure by rules 171 End plates in steam space: Thickness 3/4 x 3/4 Pitch of stays 16 1/2 x 16 How are stays secured double nuts Working pressure by rules 221 Material of stays steel

Smallest part 2 5/8 Area supported by each stay 264 sq in Working pressure by rules 151 Material of Front plates at bottom steel

Material of Lower back plate steel Thickness 3/2 Greatest pitch of stays 13 3/4 Working pressure of plate by rules 157

Pitch of tubes 4 x 3 1/2 Material of tube plates steel Thickness: Front 3/2 Back 3/4 Mean pitch of stays 8 x 4 1/2

Distance between spaces 15" Working pressures by rules 150 Girders to Chamber tops: Material steel Depth and width by rule 10 x 3 1/2 Length as per rule 38" Distance apart 7 1/2 Number and pitch of Stays in each 4 of 4 1/2"

Diameter of rivets \_\_\_\_\_ Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked \_\_\_\_\_

Length \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ Diameter of flue \_\_\_\_\_ Material of flue plates \_\_\_\_\_ Thickness \_\_\_\_\_

Distance between rings \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates: Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

Area of safety valves to superheater \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_



**DONKEY BOILER**— Description *Vertical 6 cross tubes*  
 Made at *Dundee* By whom made *Gourley Bros & Co* When made *1892* Where fixed *Sto*  
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *629* Fire grate area *14.7* Description of safety valves  
 No. of safety valves *2* Area of each Pressure to which they are adjusted *60 lbs* If fitted with casing gear *yes* If steam  
 enter the donkey boiler *no* Diameter of donkey boiler *6' 0"* Length *20' 0"* Material of shell plates *steel*  
 Description of riveting long seams *double lap* Diameter of rivet holes  $\frac{7}{8}$  Whether punched or drilled *drilled*  
 Lap of plating  $\frac{4}{8}$  Per centage of strength of joint Rivets *YY.8* Thickness of shell crown plates  $\frac{13}{16}$  Radius of do. *centre flat 0* of  
 Dia. of stays  $2\frac{1}{2}$ " Diameter of furnace Top *4' 4"* Bottom *4' 9"* Length of furnace *12' 3"* Thickness of furnace plates  $\frac{9}{16}$   
 joint *welded* Thickness of furnace crown plates  $\frac{9}{16}$  Stayed by *4 stays* Working pressure of shell by  
 Working pressure of furnace by rules *60* Diameter of uptake *15"* Thickness of uptake plates  $\frac{9}{16}$  Thickness of water tubes  $\frac{7}{16}$

**SPARE GEAR.** State the articles supplied:— *1 set coupling bolts, 1 set propeller studs, 1 set feed pump valves & seats.*

The foregoing is a correct description,

*Gourley Bros & Co* Manufacturer.

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

The machinery of this vessel has been built under special & in accordance with the enclosed approved plans and the secret letters of Sept 14<sup>th</sup> 18<sup>th</sup> /91 and Jan 18. Feb 9-27 and April 22<sup>nd</sup> 1892. The main and donkey boilers are constructed of steel and the mate has been tested at the steel works by the Society's surveyors. The safety valves of the main and donkey boilers have been adjusted to working pressures of 100 lbs and 60 lbs respectively and the engine has been running under steam. Boilers fitted for forced draught. Materials and workmanship are good. Following spare gear is supplied viz top end, bottom end & main bearing bolts and bilge pump. The machinery is now in a good and safe working condition. The vessel may in my opinion be classed in the Register B. the notification **LMC 7-92** when the remainder of the spare gear has been supplied as required by the rules.

*It is submitted that this vessel WILL BE eligible for the record + L.M.C. 7-92 when all spare gear is submitted. Should be recorded when and where gear will be fitted.*

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Certificate (if required) to be sent to *Dundee Office*

The amount of Entry Fee..	£ 2 : 0 :	When applied for,
Special .. .. .	£ 33 : 13 :	<i>July 9. 18. 92.</i>
Donkey Boiler Fee .. .. .	£ : :	When received,
Travelling Expenses (if any) £	: :	<i>July 13. 18. 92.</i>

*Harry Clark* Foreign Shipping Engineer Surveyor to Lloyd's Register of T

Committee's Minute  
 Assigned  
 MACHINERY CERTIFICATE  
 TUES. 25 OCT 1892  
 + L.M.C. 7. 92

