

# REPORT ON MACHINERY.

Port of *Sunderland*

No. *15275*

Received at London Office

MON 18 NOV 1889

No. in Survey held at *S. land*

Date, first Survey *11<sup>th</sup> April 89* Last Survey *4<sup>th</sup> Nov 1889*

Reg. Book.

(Number of Visits *34*)

*1897.24*

on the

*S. S. "County Derry"*

Tons *1164.36*

Master *A. Hall*

Built at *S. land*

By whom built *S. P. Austin & Son*

When built *1889*

Engines made at *S. land*

By whom made *N. E. M. Eng. Co. Ltd*

when made *1889*

Boilers made at *S. land*

By whom made *N. E. M. Eng. Co. Ltd*

when made *1889*

Registered Horse Power *160*

Owners *The County Derry S.S. Co. Ltd*

Port belonging to *Belfast*

## ENGINES, &c.—

Description of Engines *Tri compound 3 or 4's*

Diameter of Cylinders *20 32 53* Length of Stroke *36* No. of Rev. per minute *70* Point of Cut off, High Pressure *6 in* Low Pressure *6*

Diameter of Screw shaft *10 1/2* Diam. of Tunnel shaft *9 3/4* Diam. of Crank shaft journals *10 1/2* Diam. of Crank pin *10 1/2* size of Crank webs *12" x 4"*

Diameter of screw *13 - 6* Pitch of screw *13 - 3* No. of blades *4* state whether moveable *f* total surface *44 f*

No. of Feed pumps *2* diameter of ditto *2 1/2* Stroke *36* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* diameter of ditto *3 1/2* Stroke *36* Can one be overhauled while the other is at work *yes*

Where do they pump from *bilges of all comp. after well*

No. of Donkey Engines *2* Size of Pumps *13 1/2 x 9 1/2 x 5 1/2* Where do they pump from *B. D. Tanks bilges. after well sea. F. D. Sea hot well. tanks & bilges*

Are all the bilge suction pipes fitted with roses *yes*

Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*

No. of bilge injections *1* and sizes *4" dia* Are they connected to condenser, or to circulating pump *C. D.*

How are the pumps worked *direct by crossheads*

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* How are they protected *—*

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

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *when building*

Is the screw shaft tunnel watertight *—* and fitted with a sluice door *yes* worked from *top platform of engine room*

## OILERS, &c.—

Number of Boilers *2* Description *Cylindrical multi.* Whether Steel or Iron *excepting tubes*

Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *6<sup>th</sup> Sept. 1889*

Description of superheating apparatus or steam chest *none*

Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *—*

No. of square feet of fire grate surface in each boiler *36 f* Description of safety valves *Spring* No. to each boiler *2*

Area of each valve *7.06 sq* Are they fitted with easing gear *yes* No. of safety valves to superheater *—* area of each valve *—*

Are they fitted with easing gear *—* Smallest distance between boilers and bunkers or woodwork *9"* Diameter of boilers *11' 9"*

Length of boilers *10' 3"* description of riveting of shell long. seams *treb riv butt* circum. seams *d. r. lap* Thickness of shell plates *1 3/8"*

Diameter of rivet holes *1"* whether punched or drilled *d* pitch of rivets *6 1/2 x 3 1/4* Lap of plating *14 1/2"*

Percentage of strength of longitudinal joint *82.6* working pressure of shell by rules *163 lbs* size of manholes in shell *16" x 12"*

Size of compensating rings *8" x 1"* No. of Furnaces in each boiler *2*

Outside diameter *3'* length, top *6' 3"* bottom *6' 4"* thickness of plates *5"* description of joint *—* if rings are fitted *—*

Greatest length between rings *—* working pressure of furnace by the rules *166* combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*

Pitch of stays to 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* stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *178*

Diameter of stays at smallest part *1.33* area working pressure of ditto by rules *195* end plates in steam space, thickness *1 1/16"*

Pitch of stays to ditto *1' 3 1/8 x 1' 3 1/8* how stays are secured *d. nuts* working pressure by rules *160 lbs* diameter of stays at smallest part *2 3/8"*

Greatest pitch of stays *11 1/2"* working pressure by rules *160* Diameter of tubes *3 1/4"* pitch of tubes *4 1/2"* thickness of tube plates, front *1 3/16"* back *3/4"*

how stayed *sky tubes* pitch of stays *9"* width of water spaces *1 1/4"*

Diameter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*

Pitch of rivets *—* working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*

Distance between rings *—* working pressure by rules *—* end plates of superheater, or steam chest; thickness *—* how stayed *—*

Superheater or steam chest; how connected to boiler *—*

*1361 f of heating surface in each boiler*

SLD966-0134

Description of furnaces ribbed furnace



**DONKEY BOILER**— Description *Vertical with 4 cross water tubes*  
Made at *Stockton* by whom made *J. Sudron & Co* when made *1889* where fixed *Stoke hole*  
Working pressure *80 US* tested by hydraulic pressure to *160 US* No. of Certificate *1954* fire grate area \_\_\_\_\_ description of safety  
valves *spring* No. of safety valves *2* area of each *7.06 sq* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *no* diameter of donkey boiler *6" 6"* length *14" 0* description of riveting *long. lap. double*  
Thickness of shell plates *13/32* diameter of rivet holes *13/16* whether punched or drilled *φ* pitch of rivets *2 1/4"* lap of plating *1 1/2"*  
per centage of strength of joint *70.4* thickness of crown plates *13/32* stayed by *6 stays of 1 1/2" eff dia.*  
Diameter of furnace, top *5" 4"* bottom *5" 10"* length of furnace *6" 4"* thickness of plates *19/32* description of joint *lap single end*  
Thickness of furnace crown plates *9/16* stayed by *same as shell crown plates* working pressure of shell by rules *79 lbs*  
Working pressure of furnace by rules *85 US* diameter of uptake *1 1/2"* thickness of plates *7/16* thickness of water tubes *3/8*

**SPARE GEAR.** State the articles supplied:— *2. Connecting rod top & bottom end bolts & nuts*  
*2 main bearing bolts. 1 set of coupling bolts & nuts. 1 set of*  
*and bilge pump valves. 6 spare boiler tubes, nuts & bolts asso*  
*tion of various sizes.*

The foregoing is a correct description,  
*J. H. Sudron* Manufacturer. Main engines & boilers

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

*The machinery and boilers of this vessel have been constructed under special survey of good workmanship and materials. The main steam pipes were tested to twice the working pressure. The engines and boilers have been tried under steam & safety valves adjusted to retain 165 lbs. In my opinion the vessel is in good order and safe working condition eligible for the notification in the Register to vote of +L.M.C. 11-89*

*It is submitted that this vessel is eligible to have +L.M.C. 11-89 recorded.*  
*N.A.*  
*18-11-89*

The amount of Entry Fee .. £ *2 : 0 : 0* received by me, *J. H. Sudron*  
Special .. £ *24 : 0 : 0*  
Donkey Boiler Fee .. £ \_\_\_\_\_  
Certificate (if required) .. £ \_\_\_\_\_ *14th Nov. 1889.*  
To be sent as per margin.

(Travelling Expenses, if any, £ \_\_\_\_\_)

Committee's Minute

TUES 10 NOV 1889

*+ L.M.C. 11/89*

*J. T. Findlay*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register  
Foundation